

# **Final Report**

## **LOCAL JURISDICTION HIGHWAY NEEDS ASSESSMENT STUDY**



**WILBUR SMITH ASSOCIATES**

**in association with**

**BELL -WALKER ENGINEERS**

**FEBRUARY 1990**

[illegible]

WILBUR  
SMITH  
ASSOCIATES

ENGINEERS • ARCHITECTS • ECONOMISTS • PLANNERS

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February 14, 1990

Mr. William Smith  
City Supervisor  
City of Moscow  
122 East 4th Street  
Moscow, Idaho 83843

**RE: Idaho Local Highway Needs Assessment Study - Phase II -- 246660**  
*Final Report*

Dear Bill:

Wilbur Smith Associates is pleased to submit the Final Report on the Local Jurisdiction Highway Needs Assessment Study.

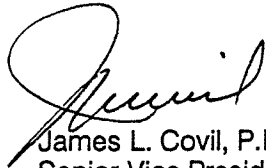
This comprehensive analysis has examined a wide variety of subjects which the Local Highway Needs Assessment Council (LHNAC) identified to be of critical interest regarding the state, county, highway district and city highway systems. This includes highway needs, financing, revenue distribution, economic importance of highways, local jurisdiction organizational features and various issues associated with the impact of Federal Government operations on Idaho's highways. Major findings regarding these subjects are reported herein.

The study found that even minimal highway needs far exceed revenues from current revenue sources. In the absence of major initiatives to provide additional funding, the backlog of needs will grow in the future and system performance will deteriorate. Various options are presented which, if implemented, could reduce the revenue shortfalls for each jurisdictional level. Clearly, Idaho is faced with critical decisions that will markedly affect highway system performance in the near and long-term future.

We sincerely hope that the information developed by this study will guide decisions regarding the highway system and facilitate adoption of forceful actions which are critically needed.

Yours sincerely,

WILBUR SMITH ASSOCIATES



James L. Covil, P.E.  
Senior Vice President  
Transportation Policy and Planning

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## Chapter 1 INTRODUCTION

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From farm-to-market roads to Interstate highways, Idaho's highways, roads and streets are vital to the State's economy. The State's agriculture, forestry, business and commerce, tourism and recreation industries all are dependent on good highways. For the first time, a scientifically derived estimate has been developed which measures the contribution roads make to Idaho's economy.

Beyond doubt, a greater effort needs to be made to maintain the highways, roads and streets in Idaho. Now, for the first time, a comprehensive analysis has been conducted that measures the backlog of highway needs existing in 1989 and forecasts the future needs that will occur through 1994.

A thorough investigation was made of current highway financing arrangements and possible alternative financing measures were examined. The impact of federal operations on state and local roads was studied and the effectiveness of multiple units of governments providing highway maintenance was reviewed.

As charged by the Idaho Legislature, the Local Highway Needs Assessment Council conducted a thorough review of the numerous issues affecting Idaho's highways. These data have been reported to the Idaho Transportation Board. Results of the study are presented in this Final Report, as well as an Executive Summary, Economic Impact Report, Economic Impact Brochure and a Compilation of Interim Study Documents.

### **Local Highway Needs Assessment Council**

In 1985, the Highway Users Federation completed a review of the management of the Idaho Highway Program. The report highlighted the strengths of the Idaho program as well as the concerns. A number of major findings and recommendations were presented including the following:

- *"there is a need for a centralized body of information in order to appraise local road conditions."*
- *"there is no centralized information on local road needs."<sup>1</sup>*

In response to these concerns, the second session of the Forty-eighth Legislature created the Local Highway Needs Assessment Council (LHNAC) with passage of House Bill 501. This eight member advisory body to the Idaho Transportation Board is made up of two members each representing the cities, counties, highway districts and the Idaho Transportation Department.

After carefully evaluating the charges set forth in House Bill 501, the Council determined there were four major issues to be evaluated:

- I - Economic Impact of Highways in Idaho
- II - Highway Needs in Idaho in Comparison to Revenues
- III - Impact of Federal Operations on Idaho's Highways
- IV - Examination of Local Organizational Features

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<sup>1</sup> Idaho Highway Program Review, Highway Users Federation, April 1985.

The Council began its work in 1986. In 1987, the Council conducted a competitive selection process which resulted in the retention of Wilbur Smith Associates, a prominent international consulting firm, to assist in performance of Phase I. The result of these efforts was identification of the issues that needed to be addressed and a work program whereby this could be accomplished. Subsequently, a second competitive selection process was undertaken and Wilbur Smith Associates was retained to undertake Phase II of the study. In both Phase I and Phase II, Wilbur Smith Associates was ably assisted by Bell-Walker Engineers Inc., headquartered in Boise.

The Council also has been assisted by the Idaho Transportation Department which has served as contract administrators. Further, the Department has provided technical support and data for various study activities.

Clearly, it is not possible to study local jurisdiction roads and streets without also examining state highways. State and local jurisdiction highways form a network which collectively serve the motor vehicle travel needs of Idaho's people and the State's economy. Therefore, the analyses performed by the Council encompasses all highways, roads and streets administered by cities, counties, highway districts and the State government. Roads under the jurisdiction of the Federal government in Idaho were addressed only insofar as there are certain funding issues associated with these roads.

### Scope of Work

A comprehensive work program was developed in Phase I and executed in Phase II. The objectives of the LHNAC in designing the work program were:

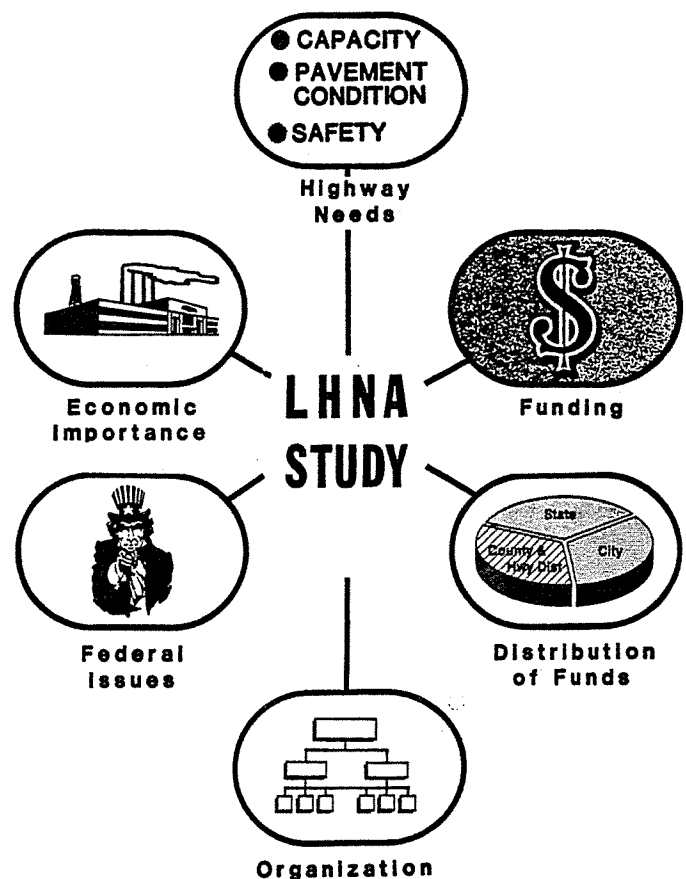
- (1) Ensure that all compelling issues were addressed;
- (2) Ensure that detailed and statistically valid data were compiled so that a credible analysis could be performed; and,
- (3) Ensure that a rigorous analytical approach was employed so that sound results were produced.

The Council is confident that these objectives have been achieved. Extensive reviews were made of all study analyses. These reviews attest to the thoroughness and statistical validity of study findings. Where possible, cross checks were made which provided further assurance that the study is based on statistically reliable data and sound analyses.

The Phase II work program addressed six main areas of emphasis. [Exhibit 1]

Some 28 separate work tasks were undertaken as follows:

**Exhibit 1**



### HIGHWAY NEEDS

- Develop Consistent Categories of Work Items
- Develop Alternative Sets of Deficiency Assessment Criteria and Design Standards

- Select Sample Road Segments
- Develop Field Inventory Procedures
- Conduct Field Inventory
- Digitize and Check Inventory Data
- Conduct Local Review of Inventory Data
- Develop Construction Unit Costs
- Develop Maintenance Unit Costs
- Develop Administration Needs Estimates
- Assess Equipment Needs
- Modify ITD HWYNEEDS Model and Apply the Model
- Compile and Review Local Jurisdiction Needs

#### **HIGHWAY FINANCE**

- Review Past and Current Road Financing
- Forecast Future Revenues
- Compare Needs with Revenues from Current Sources
- Assess Alternative Financing Measures
- Develop Investment/Performance Model
- Apply Investment/Performance Model and Assess Results

#### **DISTRIBUTION OF FUNDS**

- Perform Revenue Distribution Analysis

#### **ECONOMIC IMPORTANCE OF ROADS**

- Estimate Road System Economic Impacts

#### **ORGANIZATIONAL FEATURES**

- Investigate Local Jurisdiction Organizational Features

#### **FEDERAL ISSUES**

- Investigate Federal Payments-in-Lieu of Taxes
- Investigate Federal Vehicle Exemptions
- Investigate Access to Federally-Owned Lands
- Investigate the Impact of Federal Standards

#### **REPORTS AND PRESENTATIONS**

- Prepare Study Reports
- Make Study Presentations

#### **Study Documents**

This document constitutes the Final Report of the Local Jurisdiction Highway Needs Assessment Study.

An Executive Summary also was prepared. Wide distribution was made of the Executive Summary to the Idaho State Legislature, local governments, interested organizations and the public.

A separate report was distributed widely also entitled "*The Economic Impact of Roads on the Idaho Economy.*" Additionally, a brochure summarizing the contribution of roads to Idaho's economy was distributed on a large scale.

During the course of the study, a number of interim study documents were produced. These documents were assembled into a Compilation of Interim Study Documents to serve as technical background for future activities of the LHNA Council. Included in the Compilation of Interim Study Documents are the following:

- User Tax Comparisons
- Highway Revenues and Disbursements
- Revenue Forecasts
- Alternative Highway Financing
- System Inventory Manual
- Unit Costs
- Consistent Categories of Work Items
- Needs Standards and Criteria
- Equipment Needs
- Administration Needs
- Needs, Revenues and Revenue Distribution
- Investment/Performance Analysis
- Local Jurisdiction Organizational Features
- Federal Issues



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## Chapter 2

# THE ECONOMIC IMPACT OF HIGHWAYS ON THE IDAHO ECONOMY

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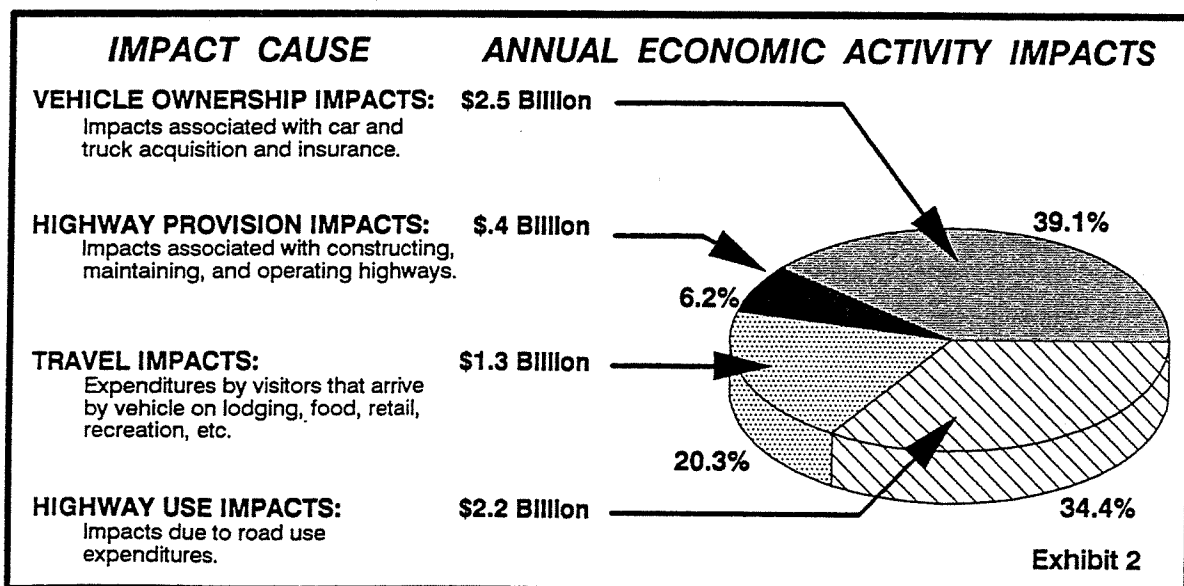
Good highways are of economic value to every Idaho resident. To determine just how valuable good highways are, the Local Highway Needs Assessment Council (LHNAC) examined Idaho's highways to estimate the contribution which highways make to the State's economy. The results of these analyses are presented below and also were published in a separate study report.

### Overview of the Highway System's Economic Value

Everyone recognizes the importance of the transportation function performed by Idaho's highways. No one needs a study to document the obvious. The State's highways, however, do more than merely provide transportation; they are also instrumental to the State's economic well being.

This study analyzed the State's highway system from the economic impact perspective. It defined, in terms of money and jobs, the extent to which highways are a critical element in the State's overall economic framework. Shown below are the total economic impacts attributable to the State's highways, by cause. In addition, the study found that:

- Highways in Idaho create \$6.4 billion in annual economic activity, \$2.2 billion in annual wages, and over 150,000 jobs for Idaho residents. [Exhibit 2]
- While State policy makers generally think in terms of dollars spent on highways, the provision of highways comprises only six percent of the total impact of streets and highways. The real impact is due to highway use.
- In terms of economic impact, all levels of highway development are important, with State-administered highways comprising 65 percent of the annual impact and locally-administered highways comprising 35 percent.
- Economic transactions associated with highways comprise an estimated 27.3 percent of Idaho's "Gross State Product," and this excludes the benefits accruing from the ability to use the State's highway system.
- On this basis, investments in streets and highways make good, economic sense.



**Economic Impact Terms and Definitions**

Highway provision is a major industry in its own right, since thousands of people are employed to construct, maintain and administer highways. Thousands of additional jobs are created in the industries that support highways, from the miner whose gravel is used in the construction of highways, to the insurance agent who handles the motor vehicle user's claims.

The highway system's final "products" are passengers and freight that are safely and efficiently delivered to their destination. In addition to the roadways and bridges, there are support elements -- gasoline service stations, rental car agencies, automotive dealerships, etc. However, the highway transportation industry encompasses more than that; it includes an intricate set of suppliers of a vast array of goods and services, all of which economically benefit from highways. Below are a few examples of the highway transportation industry participants. [Exhibit 3] In fact, every industry in Idaho benefits from highways -- either they supply a

good or service to the highways or they make use of the highways.

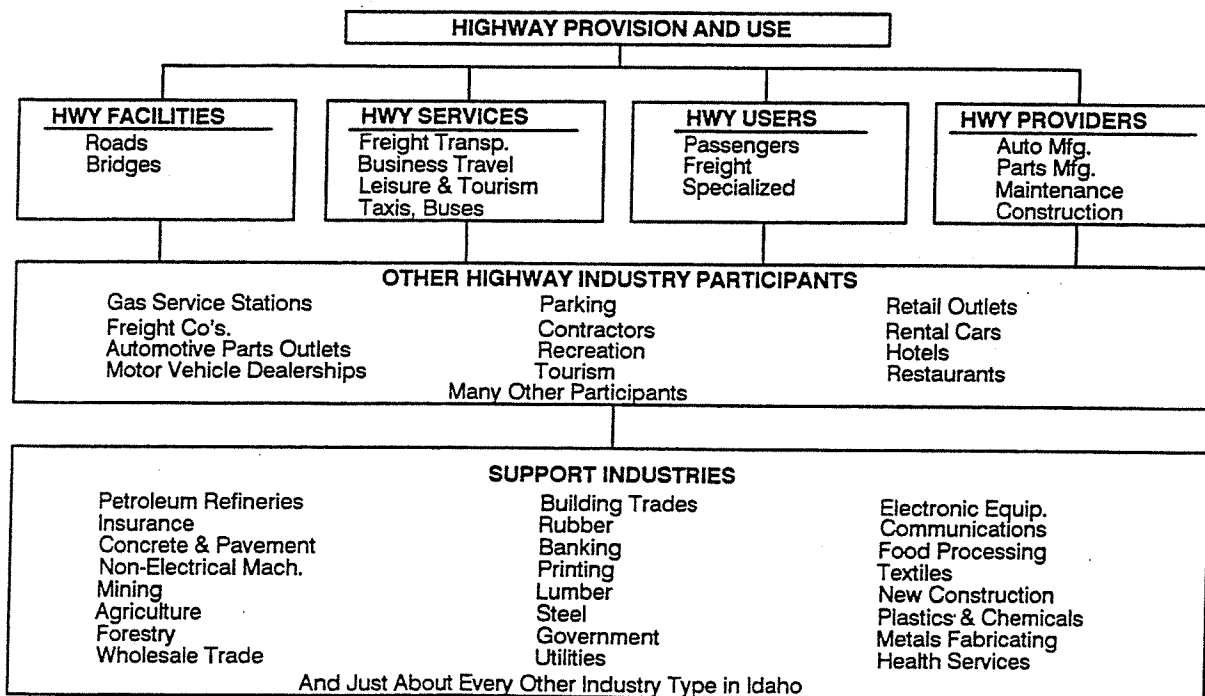
**The Economic Impact Assessment Approach**

To estimate the economic impact of highways in Idaho, all impacts were disaggregated into final demand impacts and induced components. The final demand impacts consist of direct costs which comprise both highway provision and motor vehicle ownership costs, and indirect costs consisting of highway user and travel expenditures. Highway provision costs were provided by the various highway jurisdictions. Motor vehicle use costs were based on travel related expenditures.

Costs per vehicle mile for automobiles and trucks were assigned to the various components of highway user and vehicle ownership costs. These totals were then compared to the actual total receipts reported by the Idaho State Tax Commission at motor fuel service stations, new and used car dealerships, automotive repair shops, and tire, battery, and accessory dealerships.

### Exhibit 3

## EXAMPLE HIGHWAY INDUSTRY PARTICIPANTS



### Economic Impact Types

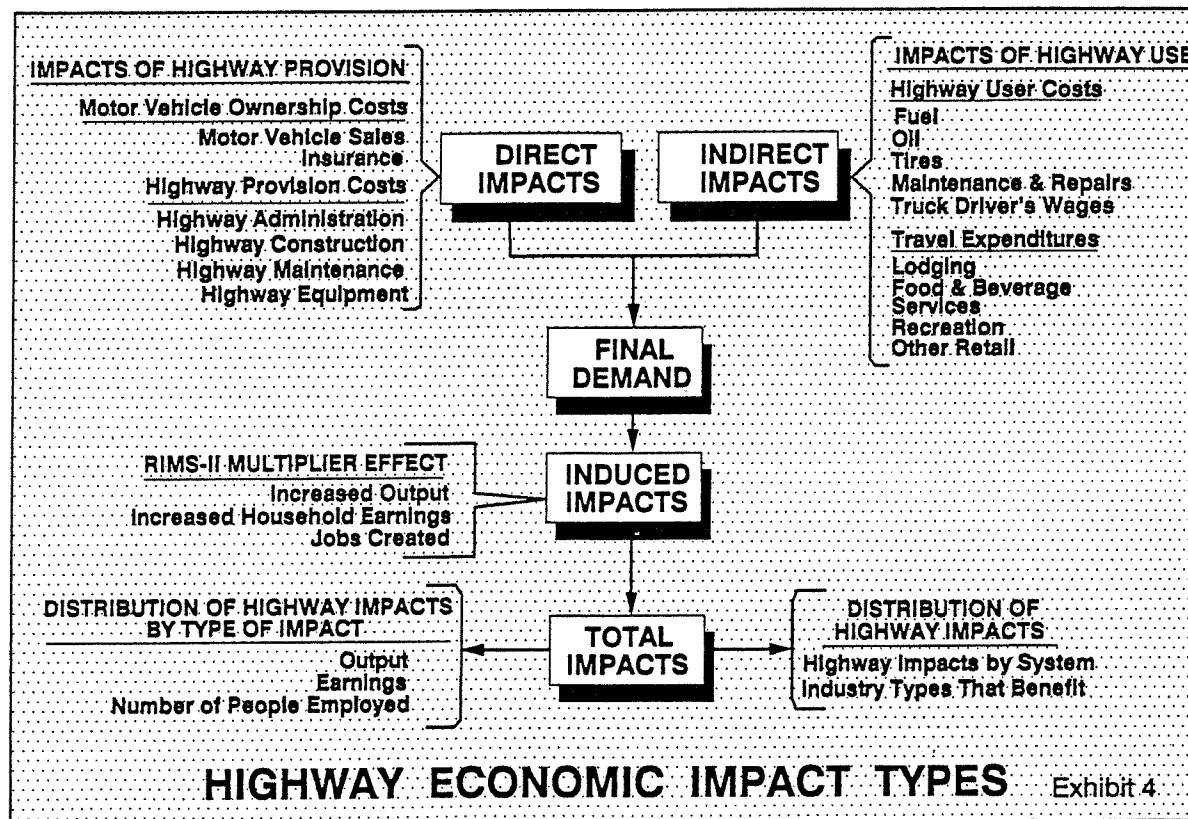
The highway transportation economic impacts calculated in this Study comprise those financial transactions that can be traced to highways and which are of economic value to the state's economy and its citizens. The impacts that are included are real and quantifiable. Hypothetical, imaginary or subjective impacts are not considered. The impacts are divided into three types: 1) Direct, 2) Indirect, and 3) Induced. They can be added together to yield the total economic impacts of roads. [Exhibit 4]

- Direct Impacts** - Direct impacts comprise those financial transactions that are of economic value to Idaho, and that occur due to the provision of highways and passenger and freight vehicles. These impacts include such expenditures as those incurred by (1) passenger car drivers, trucking firms, buses, taxis and other firms that purchase motor vehicles to transport people, goods or services, and (2) by the administration, construction and maintenance of highways.

- Indirect Impacts** - Indirect impacts comprise those financial transactions that are of economic value to Idaho and that occur due to the use of highways. Typically, these impacts include expenditures by highway users in the operation of vehicles, and by business and leisure travelers.

- Induced** - Induced impacts are the "multiplier" implications associated with the direct and indirect impacts.

The multiplier effects can be illustrated by the number of jobs that would be generated across the state in virtually every industry as a result of highway improvements. The construction industry experiences an immediate direct employment impact, as do the industries that service construction. In addition, significant employment impacts also reach other businesses outside the construction industry, as workers and companies buy goods and services, further stimulating the state economy. The multiplier is the estimate used to determine how many times a dollar of direct or indirect impact is respent in the Idaho economy.

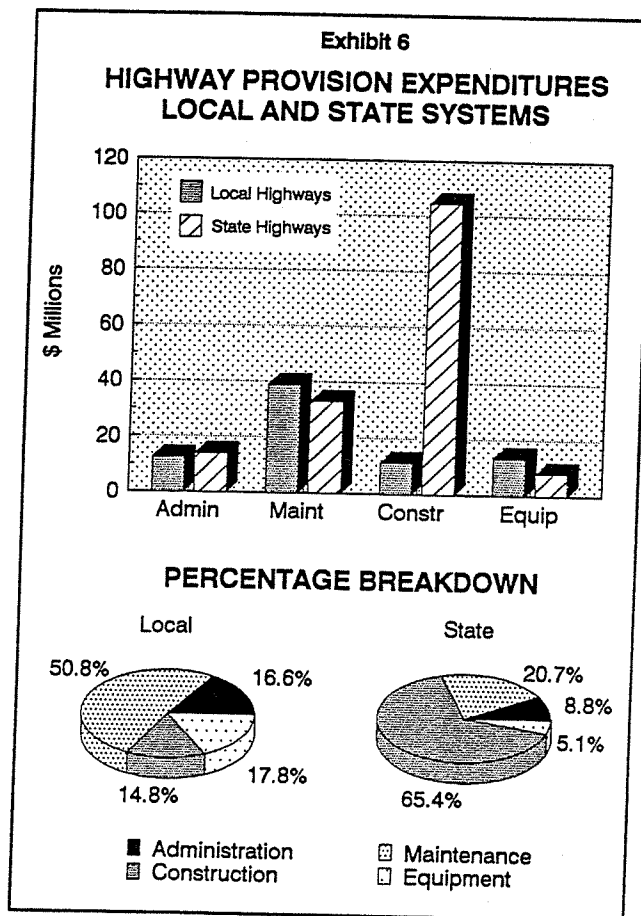


**Components of Direct Impacts**

Direct impacts are the expenses incurred in the provision of motor vehicles and highways. Since insurance is required by motorists, it is viewed as a direct expense and is classified under Motor Vehicle Ownership costs. An estimated \$738 million was spent in Idaho last year on such insurance. In addition, it is estimated that \$964 million was spent purchasing new and used motor vehicles.

The other component of direct impacts, Highway Provision, resulted in \$236 million being spent on the administration, construction, maintenance and equipment of highways. These expenses consisted of \$160 million spent by the Idaho Transportation Department on state highways, and \$76 million spent by cities, counties and highway districts on local jurisdiction highways. [Exhibit 5] There are notable differences in how these expenses were incurred on the two systems:

- ITD spent nearly \$160 million on highway provision in 1987, over twice the \$76.5 million spent by local jurisdictions.
- ITD spent 20.7 percent of its budget on highway maintenance, while the local jurisdictions had to devote over half their road funds to highway maintenance. [Exhibit 6]



**Exhibit 5**  
**HIGHWAY PROVISION EXPENSES**  
**(\$ Millions)**  
**1987**

	STATE <sup>(a)</sup>	LOCAL JURISDICTIONS <sup>(b)</sup>			
		TOTAL	CITY	COUNTY	HWY. DISTRICTS
Administration	\$ 14.1	\$ 12.7	\$ 3.2	\$ 4.3	\$ 5.2
Construction	104.6	11.3	3.3	2.1	6.0
Maintenance	33.1	38.9	9.1	13.4	16.5
Equipment	8.1	13.6	1.5	5.6	6.3
	\$159.9	\$76.5	17.1	25.4	34.0

(a) Estimates based on data obtained from the Idaho Transportation Department and U.S. Department of Transportation Highway Statistics, 1987.

(b) Summary of Local Jurisdictions Finance Reports, compiled by Idaho Transportation Department.



**Components of Indirect Impacts**

Indirect Impacts are the expenses that the users of highways incur while operating vehicles and traveling. To avoid double counting, taxes incurred by motorists, e.g. motor fuel taxes, registration fees, etc. are excluded. These taxes and fees are included in the Highway Provision category. Listed below are the estimated costs paid by highway users by cost type per thousand vehicle miles of travel (VMT). [Exhibit 7]

**Exhibit 7**  
**ESTIMATED COST OF OWNING AND OPERATING**  
**AN INTERMEDIATE-SIZE 1987 AUTOMOBILE**  
**AND A DIESEL POWERED SEMI-TRAILER**  
(Per 1000 VMT)

	<u>Auto</u>	<u>Truck</u>
<b>Vehicle Ownership Cost</b>		
Depreciation	\$ 95.80	\$213.10
Insurance	<u>64.00</u>	<u>240.00</u>
TOTAL	\$159.80	\$453.10
<b>Vehicle User Cost</b>		
Fuel	\$ 44.45	\$123.08
Oil	3.50	10.50
Tire Replacement	6.04	35.00
Maint. & Repair	<u>61.00</u>	<u>178.35</u>
TOTAL	\$114.99	\$346.93
<b>Fuel Taxes</b>		
Federal (a)	\$ 5.00	\$ 13.85
State (b)	<u>7.78</u>	<u>21.54</u>
TOTAL	\$ 12.78	\$ 35.39
<b>TOTAL OF ALL COSTS</b>	<b>\$287.57</b>	<b>\$835.42</b>

(a) Gas 9 cents, Diesel 15 cents per gallon.

(b) 1987 rate of 14 cents per gallon.

SOURCE: Cost of Owning and Operating Automobiles and Vans, 1984, US Department of Transportation and Wilbur Smith Associates.

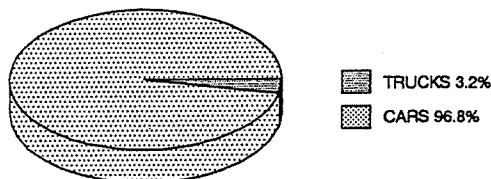
Trucking is an extremely important mode of goods transport in Idaho. Idaho's geographic position as a bridge state to the west coast results in heavy use of its highways by out-of-state as well as in-state businesses. There are an estimated 11,980 full-time truck drivers in Idaho who earn \$233 million annually. There are an estimated

30,500 large trucks in Idaho excluding pickups, panels, utility trucks and station wagons. Approximately 6,800 of these are semi-trailer combinations.<sup>2</sup> The 955 million VMT by trucks in Idaho account for over 10 percent of the VMT in the state, despite representing only 3.2 percent of the registered vehicles. This is due to the high volume of trucks crossing the State. [Exhibit 8]

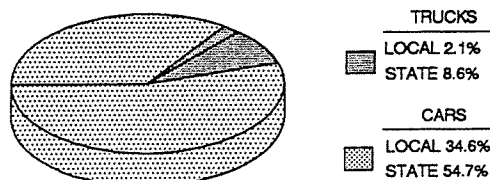
**Exhibit 8**  
**VEHICLES AND TRAVEL IN IDAHO**

	<u>Auto</u>	<u>Truck</u>	<u>Total</u>
<b>Vehicles</b>	916,500	30,500	947,000
<b>VMT (Millions)</b>			
Local	3,079	191	3,270
State	<u>4,870</u>	<u>764</u>	<u>5,634</u>
TOTAL	7,949	955	8,904

**VEHICLES**



**VMT BY MOTOR VEHICLE & SYSTEM**



With some of the most beautiful scenery in the Pacific Northwest, it is not surprising that the

<sup>2</sup> U.S. Department of Commerce, Bureau of the Census - 1987 Truck Inventory and Use Survey.

other component of indirect impacts, travel expenditures, play an integral role in the economic impact of highways in Idaho. Business and leisure travelers are estimated to have spent over \$700<sup>3</sup> million on non-transportation travel expenses in 1987. The travel industry is estimated by the Idaho Department of Commerce to have grown 115 percent since 1977.

were estimated for the year 1987, the most recent year for which base data were available for these analyses. [Exhibit 9]

**Exhibit 9**  
**TOTAL IMPACT OF IDAHO HIGHWAYS**  
**by Jurisdiction and Impact Cause**

**Economic Impact of State and Local Highways in Idaho**

The economic impact of all state and local highways in Idaho, and of each sector of the highway transportation industry, was measured in this study in terms of three economic impact measures:

- Economic Activity (Output)
- Earnings
- Jobs

An explanation of the three types of impacts follows. All three indicators of economic impact are useful; however, they should not be added together.

In each case, the impacts include the road sector itself, as well as the "multiplier effect" of the highway transportation sector. The impacts

<u>Highway Jurisdiction</u>	<u>Annual Economic Activity</u> (\$ Millions)	<u>Annual Earnings</u> (\$ Millions)	<u>Jobs</u>
<b>Local Highways</b>			
Operating	\$908.9	\$319.7	18,642
Provision	141.7	53.4	2,699
Use	711.5	216.8	13,494
Travel	<u>472.2</u>	<u>152.9</u>	<u>17,053</u>
Subtotal	\$2,234.3	\$742.8	51,888
<b>State Highways</b>			
Operating	\$1,567.7	\$551.4	32,154
Provision	304.2	122.1	6,110
Use	1,434.4	512.0	31,047
Travel	<u>814.4</u>	<u>263.7</u>	<u>29,412</u>
Subtotal	\$4,120.7	\$1,449.2	98,723
<b>Total Highways</b>	<b>\$6,355.0</b>	<b>\$2,192.0</b>	<b>150,611</b>

Impact Measure #1  
**ECONOMIC ACTIVITY:**  
\$6,355 million

"Economic Activity (output)" is the value of the highway final demand, plus the sum of all of the intermediate goods and services needed to produce the final demand of highways, plus the induced impacts of increased household consumption.

Impact Measure #2  
**EARNINGS:**  
\$2,192 million

"Earnings" are the sum of the wages and salaries to all employed persons that the highway transportation industry pays, directly or indirectly, to deliver the output of final highway demand. Earnings Impact are included in the Economic Activity totals, so should not be summed with the Economic Activity impact. Earnings are a conservative proxy for "value added." Earnings may be greater or less than the direct or indirect value of the industry, depending on the industry type.

Impact Measure #3  
**JOBS:**  
150,611

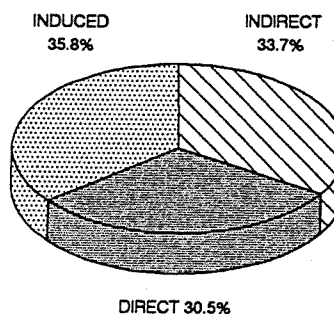
"Jobs" equal the number of employees who are employed in the highway transportation industry, plus the road-oriented share of those that are employed in sectors that support highway transportation (hotels, restaurants, etc.) plus those employed in the industries included in the induced impacts. The number of jobs attributable to an industry is always greater than simply those in the industry itself, due to the "responding" of money.

<sup>3</sup> Estimate based on Impact of Travel on State Economics - 1986, U.S. Travel Data Center; the Idaho Blue Book; and the 1987 Idaho Leisure Travel and Recreation Study.

The \$2,277 million of induced impacts created by the responding of direct and indirect impacts of Idaho highways represent 35.8 percent of the total highway economic activity. [Exhibits 10 and 11] Since this study is only concerned with the impact of highways on the Idaho economy, any induced benefits incurred outside of the State are not included.

Therefore, motor vehicle manufacturing and oil refining, two of the largest final demand components, yield no induced impact in Idaho. Instead, the costs incurred by motor vehicle dealerships and gas service stations filter out of Idaho. This results in a significantly lower induced impact than what would be created on the national level.

**Exhibit 10  
DISTRIBUTION OF  
ECONOMIC IMPACT TYPES**



**Exhibit 11  
ANNUAL ECONOMIC ACTIVITY IMPACTS OF IDAHO HIGHWAYS (\$ Millions)**

<b>DIRECT ECONOMIC IMPACTS</b>		<b>INDIRECT ECONOMIC IMPACTS</b>	
Local Highways	\$701.3	Local Highways	\$746.1
State Highways	1,237.5	State Highways	1,392.6
<b>Total Direct Impact</b>	<b>\$1,938.8</b>	<b>Total Indirect Impact</b>	<b>\$2,138.7</b>

<b>INDUCED ECONOMIC IMPACTS</b>	
From Direct Impacts	\$983.9
From Indirect Impacts	1,293.7
<b>Total Induced Impact</b>	<b>\$2,277.6</b>

<b>TOTAL ANNUAL ECONOMIC IMPACTS</b>	
<b>Local Jurisdiction Highways</b>	
Vehicle Ownership	\$908.9
Highway Provision	141.7
Highway User	711.5
Travel Expenditures	472.2
<b>Total Local Highway Impact</b>	<b>\$2,234.3</b>
<b>State Highways</b>	
Vehicle Ownership	\$1,567.7
Highway Provision	304.2
Highway User	1,434.4
Travel Expenditures	814.4
<b>Total State Highway Impact</b>	<b>\$4,120.7</b>
<b>Total Highway Annual Impact</b>	<b>\$6,355.0</b>

**Economic Impacts by Cause** - The RIMS-II model produces data that permits analysis of the impacts from different perspectives. The induced impacts are generated in the model after entering the direct and indirect expenditures. The model expands these expenditures to yield the direct caused and indirect caused impact.

- Only seven percent of the Annual Economic Activity associated with Idaho's highways is generated by Road Provision.
- Only eight percent of the Earnings and six percent of the jobs associated with Idaho's highways are generated by Road Provision.

The table below combines the local and state jurisdiction impacts analyzed on the previous two pages and indicates the four Impact Causes by their various components. [Exhibit 12] All three Impact Measures point to the fact that Highway Provision has the smallest impact of the four Impact Causes.

This helps demonstrate the critical role which highway use plays in serving the state's overall economy, and how essential financial support of Idaho's highways is to insure economic growth since highway use helps to generate \$3.4 billion in annual Idaho Economic Activity.

**Exhibit 12**  
**ECONOMIC IMPACTS ASSOCIATED WITH**  
**ALL HIGHWAYS IN IDAHO BY CAUSE**  
**1987**

<u>Impact Causes</u>	<u>Impact Measures</u>		
	<u>Annual Economic Impact</u> (\$ Thousands)	<u>Annual Earnings</u> (\$ Thousands)	<u>Jobs</u>
<b>DIRECT CAUSED IMPACTS<sup>(a)</sup></b>			
Vehicle Ownership			
Motor Vehicle Sales	\$1,109,108	\$ 141,830	10,502
Insurance	1,367,595	729,220	40,294
Total Ownership Costs	\$2,476,703	\$ 871,050	50,796
Highway Provision			
Administration	\$ 48,015	\$ 13,429	838
Maintenance	88,132	29,107	1,505
Construction	274,922	123,064	6,006
Equipment	34,887	9,924	460
Total Highway Provision	445,956	175,524	8,809
<b>Total Direct Impacts</b>	<b>\$2,922,659</b>	<b>\$1,046,574</b>	<b>59,605</b>
<b>INDIRECT CAUSED IMPACTS<sup>(a)</sup></b>			
Highway User Costs			
Fuel	\$ 540,228	\$ 68,802	5,094
Oil	45,319	7,242	536
Tires	127,315	38,607	2,492
Maint. & Repairs	977,227	310,907	19,335
Driver's Wages	455,663	303,291	17,084
Total Highway User Costs	\$2,145,752	\$ 728,849	44,541
Travel Expenditures			
Lodging	\$ 580,006	\$ 196,596	26,101
Food and Beverage	447,891	129,407	13,877
Services	23,314	8,939	499
Recreation	93,542	22,006	1,568
Retail	141,842	59,689	4,420
Total Travel Expenditures	\$1,286,595	\$ 416,637	46,465
<b>Total Indirect Impacts</b>	<b>\$3,432,347</b>	<b>\$1,145,486</b>	<b>91,006</b>
<b>TOTAL ECONOMIC IMPACTS<sup>(a)</sup></b>	<b>\$6,355,006</b>	<b>\$2,192,060</b>	<b>150,611</b>

(a) Includes the induced "multiplier effect."

**Business and Leisure Travel Is Important -**

Of the 150,611 jobs associated with highways in Idaho, over 46,000 are attributable to business and leisure travel by visitors to Idaho. [Exhibit 13] The recent completion of a convention facility in Coeur d'Alene and another soon to be completed in Boise should continue to bolster the number of business travelers in Idaho. In addition, Idahoans are aggressively marketing their 2,000 lakes, deep winding canyons, and jagged mountains. In fiscal year 1988, nearly \$1.2 million was spent on tourism advertising and promotional grants in promoting the recreational opportunities the Gem State has to offer. The continued expansion of business and tourism in Idaho should result in an ever increasing impact on Idaho's economy and employment.

**Exhibit 13**  
**JOBS AND EARNINGS ATTRIBUTABLE TO**  
**BUSINESS AND LEISURE TRAVEL**  
**ON IDAHO HIGHWAYS**  
**1987**

	<u>Jobs</u>	<u>Earnings</u> (\$ Thousand)
Lodging	26,101	\$196,596
Food & Beverage	13,877	129,407
Services	499	8,939
Recreation	1,568	22,006
Retail	4,420	59,689
	<u>46,465</u>	<u>\$416,637</u>

**Everyone Benefits from Highways** - Highways benefit everyone, regardless of whether they do or do not drive. By providing goods and services directly or indirectly to the highway industry or its travelers, or by benefiting from the respending of money, even people in apparently unrelated industries and professions benefit from highway transportation.

To identify which industry types are economically impacted by roads, the RIMS-II input/output model was used. The model lists the 32 industry types, plus households, and depicts the estimated economic activity, earnings and jobs in each that are related to highway transportation. This tabulation indicates that all Idaho industry types benefit from highways in Idaho. [Exhibit 14]

**Exhibit 14**  
**IMPACTS OF ALL IDAHO HIGHWAYS**  
**BY IMPACTED INDUSTRY TYPE**  
**1987**

<u>Impacted Industry Types</u>	<u>Total Annual Impact</u>		
	<u>Economic Activity</u> (\$000)	<u>Earnings</u> (\$000)	<u>Jobs</u>
Ag.Prod.,Forestry Svcs.	\$124,244	\$25,617	1,567
Other Mining	5,603	1,585	46
New Construction	44,388	14,173	572
Maint. & Repair Const.	207,055	109,942	4,439
Food, Kindred Prd.	181,855	22,350	1,053
Apparel	4,535	1,245	126
Paper, Allied Products	22,196	4,681	113
Printing, Publishing	54,270	18,087	1,096
Chemicals, Refined Petrol.	423,549	2,624	71
Rubber, Leather Prod.	71,507	16,788	943
Lumber, Furniture Prod.	15,616	3,685	134
Stone, Clay, Glass Prod.	12,752	2,850	227
Fabricated Metals	15,784	3,888	180
Non-electrical Machinery	27,896	7,466	264
Motor Vehicles, Equipment	780,582	2,228	104
Other Transportation Equip.	2,649	674	31
Miscellaneous Mfg.	33,369	8,794	648
Transportation	337,815	287,556	14,179
Communications	92,680	24,356	853
Utilities	118,000	12,607	389
Wholesale Trade	192,720	75,427	3,707
Retail Trade	694,008	344,747	26,361
Finance	69,496	20,610	970
Insurance	771,691	535,670	26,462
Real Estate	277,489	5,490	2,114
Lodging, Amusements	361,561	128,650	22,798
Personal Services	43,538	20,476	2,368
Business Services	125,448	66,411	3,401
Eating, Drinking Estab.	349,379	109,136	15,741
Health Services	120,525	70,582	3,369
Other Services	741,798	233,876	13,897
Other Sectors	31,008	1,125	60
Households	--	8,664	2,328
<b>TOTAL IMPACT</b>	<b>\$6,355,006</b>	<b>\$2,192,060</b>	<b>150,611</b>

SOURCE: RIMS-II Multipliers  
Wilbur Smith Associates

**Total Contribution to Employment and GSP -**

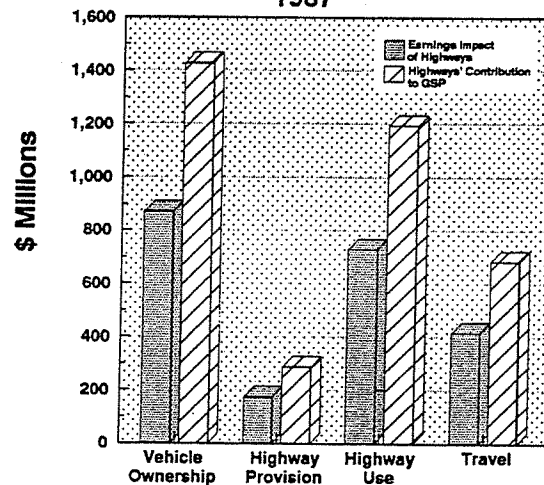
Idaho has approximately one million residents and a labor force of 440,000.<sup>4</sup> Over 150,000 jobs, 34 percent of the labor force, are estimated in this study to be associated with Idaho highways. This includes the direct and indirect jobs created by the provision and use of highways as well as the jobs created by the respending of money throughout the Idaho Economy.

The total Idaho Gross State Product (GSP) in 1987 of \$13.2 billion is the total "value added" component of the state economy, and is the aggregate of all final purchases excluding expenditures on "intermediate goods." Since this study's estimate of the highway transportation industry's "Economic Activity" impact includes the value of intermediate goods, the Economic Activity (output) impacts contained in this study should not be compared with GSP. Instead a comparison between the "earnings impact" and GSP is more appropriate.

The Earnings Impact was used as a benchmark in determining the amount of GSP in Idaho that is traceable to the State's highways. Nationally,

earnings constitute 61 percent of the total Gross National Product. Using this percentage it was found that the total roads' share of GSP, \$3,594 million, was 27.3 percent of the total GSP of \$13,170 million. [Exhibits 15 and 16]

**Exhibit 16**  
**TOTAL HIGHWAYS CONTRIBUTION TO GSP**  
**1987**



**Exhibit 15**

**TOTAL HIGHWAYS CONTRIBUTION TO GROSS STATE PRODUCT**

<b>Impact Causes</b>	<b>Total Hwys' (a) Earnings Impact (\$ millions)</b>	<b>Total Hwys' (b) Portion of GSP (\$ millions)</b>	<b>Total Hwys' Share of GSP (percent)</b>
<b>Direct Caused Impacts:</b>			
Vehicle Ownership	\$ 871.1	\$1,428.0	10.8%
Highway Provision	175.5	287.7	2.2%
<b>TOTAL</b>	<b>\$1,046.6</b>	<b>\$1,715.7</b>	<b>13.0%</b>
<b>Indirect Caused Impacts:</b>			
Highway Use	\$ 728.9	\$1,194.9	9.1%
Travel	416.6	683.0	5.2%
<b>TOTAL</b>	<b>\$1,145.5</b>	<b>\$1,877.9</b>	<b>14.3%</b>
<b>TOTAL</b>	<b>\$2,192.1</b>	<b>\$3,593.6</b>	<b>27.3%</b>

(a) Earnings as calculated throughout study.

(b) Earnings adjusted to be comparable with GSP.

<sup>4</sup> U.S. Department of Commerce, Bureau of the Census - 1987.

**Economic Impact of Local Jurisdiction Highways in Idaho**

"Local Highways" comprise those highways that are maintained and administered by city, county, and highway district jurisdictions. In Idaho there are 29,116 miles of local jurisdiction highways, representing 85.5 percent of total state and local highway mileage in the State. Local highways principally serve land access needs, providing direct access to dwelling units and places of business. In performing this function, local highways are vital to every Idaho resident and every Idaho place of business.

This study examined this land access role, and estimates that local highways annually generate

\$2,234.4 million in Idaho economic activity. This economic activity, and the earnings and jobs associated with it, are summarized as follows.  
[Exhibits 17 and 18]

**Exhibit 18**  
**TOTAL ANNUAL ECONOMIC IMPACT**  
**OF LOCAL HIGHWAYS**  
**1987**

<u>Impact Type</u>	<u>Impact</u> (\$Million)
Direct (road provision)	\$701.3
Indirect (road use)	746.1
Induced (multiplier)	787.0
<b>TOTAL</b>	<b>\$2,234.4</b>

**Exhibit 17**  
**ECONOMIC IMPACTS ASSOCIATED WITH**  
**LOCAL JURISDICTION HIGHWAYS IN IDAHO BY CAUSE**  
**1987**

<u>Impact Causes</u>	<u>Impact Measures</u>		
	<u>Annual Economic Impact</u> (\$ Thousands)	<u>Annual Earnings</u> (\$ Thousands)	<u>Jobs</u>
<b>DIRECT CAUSED IMPACTS<sup>(a)</sup></b>			
Vehicle Ownership			
Motor Vehicle Sales	\$ 407,043	\$ 52,052	3,854
Insurance	501,905	267,622	14,788
Total Ownership Costs	\$ 908,948	\$ 319,674	18,642
Highway Provision			
Administration	\$ 22,757	\$ 6,366	397
Maintenance	22,494	7,427	384
Construction	74,614	33,400	1,630
Equipment	21,872	6,222	288
Total Highway Provision	141,737	53,415	2,699
<b>Total Direct Impacts</b>	<b>\$ 1,050,685</b>	<b>\$ 373,089</b>	<b>21,341</b>
<b>INDIRECT CAUSED IMPACTS<sup>(a)</sup></b>			
Highway User Costs			
Fuel	\$ 198,224	\$ 25,250	1,870
Oil	16,443	2,658	197
Tires	47,056	14,168	914
Maint. & Repairs	358,642	114,103	7,096
Driver's Wages	91,134	60,659	3,417
Total Highway User Costs	\$ 711,499	\$ 216,838	13,494
Travel Expenditures			
Lodging	\$ 212,862	\$ 72,149	9,579
Food and Beverage	164,377	47,493	5,093
Services	8,554	3,278	183
Recreation	34,330	8,076	576
Retail	52,056	21,906	1,622
Total Travel Expenditures	\$ 472,179	\$ 152,902	17,053
<b>Total Indirect Impacts</b>	<b>\$ 1,183,678</b>	<b>\$ 369,740</b>	<b>30,547</b>
<b>TOTAL ECONOMIC IMPACTS<sup>(a)</sup></b>	<b>\$ 2,234,363</b>	<b>\$ 742,829</b>	<b>51,888</b>

(a) Includes the induced "multiplier effect."

**Economic Role of Local Jurisdiction**

**Highways** - Every car and truck owned and operated by Idaho residents, and most vehicles operated by visitors, travel for at least a portion of their journey on one or more local jurisdiction highways. These trips made partially or entirely on local highways are important to the State's economy.

Perhaps the most important economic role offered by highways is the ability to conduct business (get to work, make a sale, carry a manufactured good, etc.). The economic value of this ability to use local jurisdiction highways is, however, not included herein. Rather, the economic impacts include only the value of the financial transactions associated with highway provision and highway use. On this basis, the local highways analyses indicate the following:

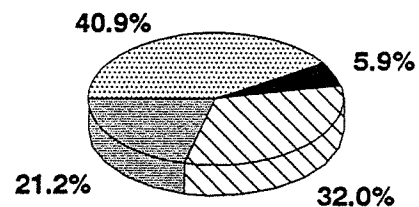
- Each \$1 spent on local highway transportation (direct and indirect expenditures) yields an additional \$0.54 of induced annual economic activity in Idaho.
- Each \$100 million spent on local jurisdiction highways generates 3,586 jobs for Idaho residents.
- The \$2,234.4 of local jurisdiction highway impacts constitutes 35.2 percent of the total economic activity attributable to all of Idaho's highways.

The purchase of motor vehicles has limited value in Idaho. Since they are not built in the State, only the retail effects of motor vehicle sales yield any economic impact in Idaho.

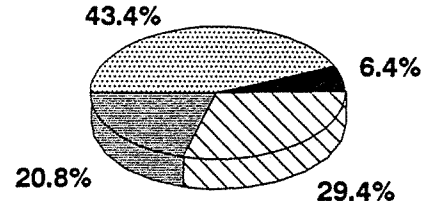
Despite representing 21 percent of both the total annual economic impact and annual earnings attributable to local jurisdiction highways, the travel industry accounts for a disproportionate 33 percent of the total jobs resulting from local highways. Unlike motor vehicle sales in which the majority of economic activity is created by manufacturing that occurs outside of Idaho, most of the travel expenditures arise from goods and services provided within Idaho. Therefore, there is a greater multiplier effect on the Idaho economy associated with highway use and the Idaho travel industry that has built up to serve that travel.  
[Exhibit 19]

**Exhibit 19**  
**LOCAL JURISDICTION HIGHWAY**  
**ECONOMIC IMPACT**  
**BY CAUSE**  
**1987**

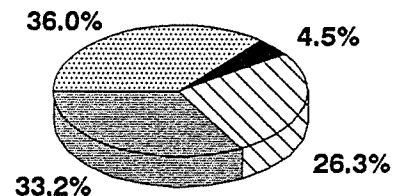
**ANNUAL ECONOMIC IMPACT**



**ANNUAL EARNINGS**



**JOBS**



- VEHICLE OWNERSHIP
- HIGHWAY PROVISION
- HIGHWAY USER COSTS
- TRAVEL EXPENDITURES



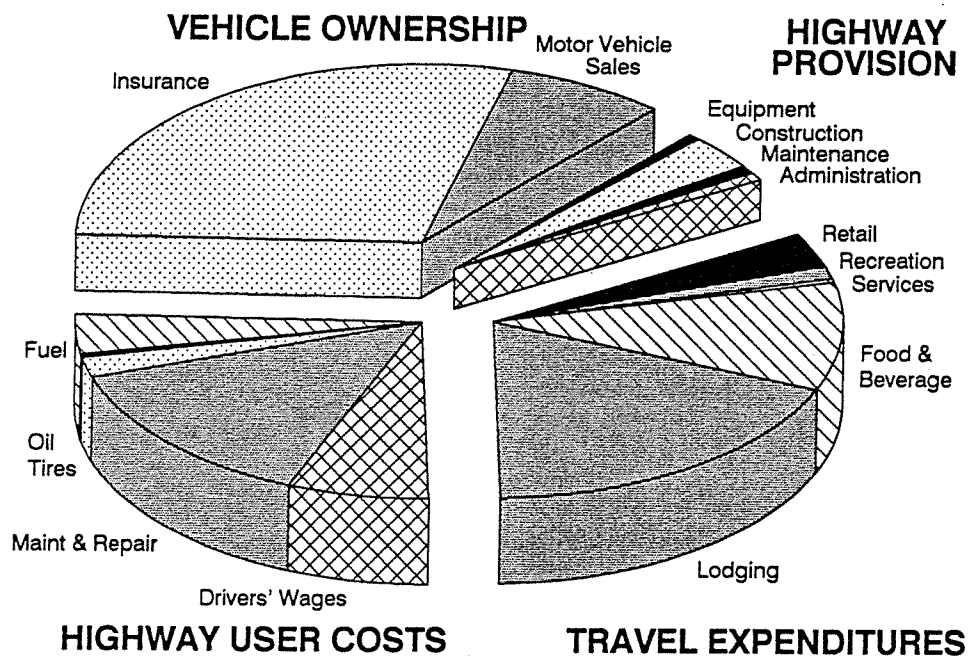
**Local Jurisdiction Highways Mean Jobs -**

There are approximately 440,000 people employed in Idaho; of these, an estimated 51,888 (12 percent of the workforce) owe their jobs directly or indirectly to local jurisdiction highways. Such jobs are due principally to vehicle ownership (especially motor vehicle insurance), establishments that serve the travelling public (motels, etc.) and businesses that support vehicle use (gas stations, etc.). Those employed in highway provision comprise a very small percentage (5.2 percent) of total jobs estimated to be associated with Idaho's highways. [Exhibits 20 and 21]

**Exhibit 20  
JOBS ATTRIBUTABLE TO  
LOCAL JURISDICTION HIGHWAYS  
1987**

<u>Impact Cause</u>	<u>Jobs</u>	<u>Percent</u>
Vehicle Ownership	18,642	35.9
Highway Provision	2,699	5.2
Highway Use	13,494	26.0
Travel	<u>17,053</u>	<u>32.9</u>
	51,888	100.0

**Exhibit 21  
JOBS BY IMPACT TYPE**



**Business and Leisure Travel Is Important -**

Highway travelers are important to local economies, whether they are conducting business or are touring. Of the nearly 52,000 jobs associated with local jurisdiction highways in Idaho, over 17,000 arise from business and leisure travel by visitors to Idaho. Based on leisure travel studies by the Idaho Department of Commerce and the U.S. Travel Data Center it is estimated that an average of \$55 is spent by business and leisure travelers per day in Idaho. These travel expenditures result in over \$150 million in earnings (payroll) for Idaho residents annually. [Exhibit 22]

**Exhibit 22**  
**JOBS AND EARNINGS ATTRIBUTABLE TO**  
**BUSINESS AND LEISURE TRAVEL**  
**ON LOCAL JURISDICTION HIGHWAYS**

	<u>Jobs</u>	<u>Earnings</u> (\$ Thousands)
Lodging	9,579	\$72,149
Food & Beverage	5,093	47,493
Services	183	3,278
Recreation	576	8,076
Retail	1,622	21,906
	<u>17,053</u>	<u>\$152,902</u>

**Everyone Benefits from Local Jurisdiction**

**Highways** - Highways benefit everyone, whether they have ever driven or not. Even industry types that are seemingly unrelated to highway transportation benefit because they provide goods and services, directly or indirectly, to the highway transportation industry or its travelers, or benefit from the responding of money.

**Impacted Industry Types** - To identify which industry types are economically impacted by local jurisdiction highways, the RIMS-II input/output model was used. The model lists the 32 industry types, plus households, and depicts the estimated economic activity, earnings and jobs in each that are related to highway transportation. This tabulation indicates that all Idaho industry types benefit from local jurisdiction highways. [Exhibit 23]

**Exhibit 23**  
**IMPACTS OF IDAHO**  
**LOCAL JURISDICTION HIGHWAYS**  
**BY IMPACTED INDUSTRY TYPE**  
**1987**

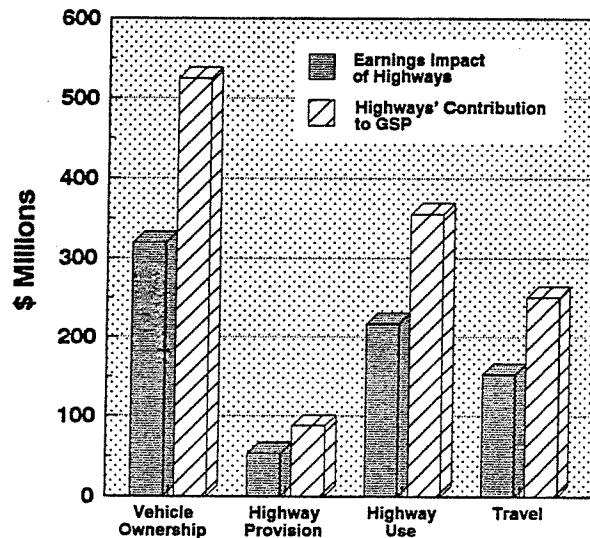
<u>Impacted Industry Types</u>	<u>Total Annual Impact</u>		
	<u>Economic Activity</u> (\$000)	<u>Earnings</u> (\$000)	<u>Jobs</u>
Ag.Prod.,Forestry Svcs.	\$43,183	\$8,871	543
Other Mining	1,596	446	13
New Construction	11,329	3,616	146
Maint. & Repair Const.	61,244	32,115	1,297
Food, Kindred Prd.	63,198	7,764	366
Apparel	1,546	423	43
Paper, Allied Products	7,855	1,654	40
Printing, Publishing	19,228	6,416	389
Chemicals, Refined Petrol.	155,109	917	25
Rubber, Leather Prod.	26,026	6,110	343
Lumber, Furniture Prod.	5,190	1,231	45
Stone, Clay, Glass Prod.	3,535	783	63
Fabricated Metals	4,985	1,231	57
Non-electrical Machinery	16,291	4,326	153
Motor Vehicles, Equipment	286,460	814	38
Other Transportation Equip.	910	234	11
Miscellaneous Mfg.	12,077	3,177	234
Transportation	82,961	65,533	3,160
Communications	32,751	8,604	301
Utilities	41,213	4,405	136
Wholesale Trade	67,797	26,534	1,304
Retail Trade	247,449	122,919	9,399
Finance	23,995	7,100	334
Insurance	282,410	196,364	9,697
Real Estate	94,988	1,924	740
Lodging, Amusements	131,970	46,969	8,323
Personal Services	15,000	7,046	815
Business Services	44,146	23,359	1,196
Eating, Drinking Estab.	125,189	39,104	5,640
Health Services	40,848	23,922	1,142
Other Services	272,532	85,575	5,085
Other Sectors	11,342	411	21
Households	--	2,932	789
<b>TOTAL IMPACT</b>	<b>\$2,234,363</b>	<b>\$742,829</b>	<b>51,888</b>

SOURCE: RIMS-II Multipliers  
Wilbur Smith Associates

**Local Jurisdiction Highways' Contribution to GSP** - The Idaho Gross State Product (GSP) in 1987 of \$13.2 billion is the total value of the state economy, and is the aggregate of all final purchases excluding expenditures on "intermediate goods." Since this study's estimate of the highway transportation industry's "Economic Activity" impact includes the value of intermediate goods, the Economic Activity (output) impacts contained in this study should not be compared with GSP. Instead a comparison between the "earnings impact" and GSP is more appropriate.

The "earnings impact", which constitutes 61 percent of value added as defined in the national accounts, indicates that local jurisdiction highways' total share of GSP is an estimated 9.2 percent. This 9.2 percent includes the impacts for the provision of highways and motor vehicles, the use of highways by Idaho residents and visitors (including visitor expenditures), and the induced impacts. This, however, excludes the benefits accruing to Idaho business from the ability to use local jurisdiction highways. [Exhibit 24 and 25]

**Exhibit 25  
LOCAL JURISDICTION HIGHWAYS  
CONTRIBUTION TO GSP  
1987**



**Exhibit 24  
LOCAL JURISDICTION HIGHWAYS CONTRIBUTION TO GROSS STATE PRODUCT**

<u>Impact Causes</u>	<u>Local Hwys'<sup>(a)</sup> Earnings Impact (\$ millions)</u>	<u>Local Hwys'<sup>(b)</sup> Portion of GSP (\$ millions)</u>	<u>Local Hwys' Share of GSP (percent)</u>
Direct Caused Impacts:			
Vehicle Ownership	\$319.7	\$524.0	4.0%
Highway Provision	53.4	87.6	0.6
TOTAL	\$373.1	\$611.6	4.6%
Indirect Caused Impacts:			
Highway Use	\$216.8	\$355.4	2.7%
Travel	152.9	250.7	1.9
TOTAL	369.7	\$606.1	4.6%
TOTAL	\$742.8	\$1,217.7	9.2%

(a) Earnings as calculated throughout study.

(b) Earnings adjusted to be comparable with GSP.

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**GLOSSARY**

<b>Direct Caused Impacts:</b>	The Direct Impacts inclusive of the induced "multiplier effect".
<b>Direct Impact:</b>	The financial transactions that are of economic value to Idaho and that occur due to the provision of highways, and passenger and freight vehicles (i.e. Highway Provision Costs and Motor Vehicle Ownership Costs).
<b>Earnings:</b>	The sum of the wages and salaries to all employed persons that the highway industry and highway-related industries pay, directly or indirectly.
<b>Economic Activity (Output):</b>	The value of the highway final demand, plus the sum of all the intermediate goods and services needed to produce the final demand of highways, plus the induced impacts of increased household consumption.
<b>Final Demand:</b>	The direct (Highway Provision and Motor Vehicle Ownership) and the indirect costs (Highway User and Travel Expenditures), excluding any induced impacts.
<b>Impact Cause:</b>	The Highway Provision, Motor Vehicle, Highway User, and Travel financial transactions associated with the provision and use of highways and vehicles including all induced impacts.
<b>Impact Measure:</b>	The three indicators of economic impact (Economic Activity, Earnings, Jobs).
<b>Impact Type:</b>	The three components (direct impacts, indirect impacts and induced impacts) added together to yield the total economic impact of highways.
<b>Intermediate Good:</b>	A good which is used at some point in the production process of other goods, rather than final consumption. (see Value Added)
<b>Indirect Impact:</b>	The financial transactions that are of economic value to Idaho and that occur due to the use of highways (Road User Costs and Travel Expenditures).
<b>Indirect Caused Impact:</b>	The Indirect Impacts inclusive of the induced "multiplier effect".
<b>Induced Impact:</b>	The "multiplier" implication created by the direct and indirect impacts. (see Multiplier)
<b>Local Jurisdiction Highways:</b>	Highways administered by the three local jurisdiction levels; city, county and highway district.
<b>Multiplier:</b>	The measure used to predict the change of total income or employment in Idaho which results from an increase in final demand expenditures.
<b>RIMS-II:</b>	The Regional Input/Output Modeling System of the U.S. Department of Commerce Bureau of Economic Analysis used to measure the Economic Activity, Earnings, and Jobs in Idaho attributable to highways within the State.
<b>State Highways:</b>	The highways administered by the Idaho Transportation Department.
<b>Value Added:</b>	The value of a good produced minus the value the good's inputs. Used in assessing Gross State Product.

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## Chapter 3 HIGHWAY NEEDS

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The Idaho Transportation Department regularly performs a needs assessment of the highways for which the State is responsible. Indeed, needs assessments are an important aspect of the Department's ongoing planning and project programming activities. These needs assessments permit the Department to conduct periodic assessments of the status of the state highway system and to determine where limited resources should be spent.

Never before has Idaho had a scientifically determined assessment of the needs on local government highways, i.e., those facilities administered by counties, highway districts and cities. That is no longer the situation. The LHNAC went to considerable effort to produce a rigorous and statistically valid analysis of needs on local highway systems. This study has produced the first needs assessment of all state and local government highway systems.

### **Comparable Treatment of all Facilities**

This needs assessment was performed so as to be "jurisdiction blind." This approach was taken so that needs for all four jurisdictional levels are on a strictly comparable basis, thereby avoiding preferential treatment of a facility based on which jurisdiction holds administrative responsibility. Therefore, the study's criteria, standards and unit cost values do not necessarily reflect the actual experiences of a specific jurisdiction or jurisdictional level. Instead, the study's composite values are reflective of the experience of all jurisdictions. These values were applied in the needs analysis process without regard to the jurisdiction responsible for a facility. That is, like facilities were treated in like fashion, regardless of jurisdictional responsibility.

The study's criteria, standards and unit cost values varied by location in the State, by functional classification of highway, and by rural/urban distinctions. All study values were reviewed at

length by the LHNAC to ensure reasonableness and to avoid bias.

### **Needs Assessment Process**

The process employed in the needs assessment conforms to standard state-of-the-art practice and reflects the many refinements which have been made in needs analysis procedures over the years. The basic steps in this process were as follows:

1. **Classify the Highway System** - The study used the Federal Highway Administration's functional classification approach as the basis for system classification. This process determines the role which individual roads play as one part of the total road system. All highways serving a particular function are classified the same, regardless of which jurisdiction may be responsible for a particular highway.
2. **Compile Inventory Data** - Inventory data were compiled which describe important features of roadways, bridges and railroad grade crossings. The process used to develop the study's database is described subsequently.
3. **Determine Deficiencies** - Inventory data were compared to various criteria to identify any elements which were deficient. This was done for existing conditions (as of the beginning of 1989) and for future conditions forecast through 1994. The criteria used for determining deficiencies are described subsequently.
4. **Determine Needed Improvements** - Based on the types of deficiencies and the years in which the deficiencies occur, improvement projects were selected where appropriate. As is discussed subsequently, in some cases, improvements were not selected and

included in the needs even though deficiencies were identified. Improvements to overcome existing deficiencies constitute backlog needs while those which address future deficiencies are denoted as future needs.

5. **Estimate Costs** - Estimates were developed of the costs to construct the selected improvements, and to maintain and administer the highway system. These estimates were based on unit costs which reflect composite practices and cost experience in different parts of the State for each functional class of highways.

### Inventory Data

The LHNAC recognized that a sound needs analysis must be based on good data which describe important features of the highway system. Therefore, significant efforts were expended to achieve the quantity and quality of data that were needed.

**Roadways** - The Idaho Transportation Department maintains, on a continuing basis, inventory data for all roadways under its jurisdiction. These data were used for the study of state highway needs.

Available records for local jurisdictions highways were judged not to be sufficiently detailed or current to provide a reliable database for these needs assessments. Likewise, it was deemed to be prohibitively expensive to develop a 100 percent inventory of all local jurisdiction roadways. Therefore, a statistical sampling process was used to select representative roadway samples. The sampling process was designed to achieve a high level of statistical reliability on a statewide basis for each combination of administrative jurisdiction and roadway functional class. The statistical reliability levels selected by the Council were as follows:

- Arterials and Collectors - 90 percent confidence level, 5 percent allowable error.
- Local Access Roads - 80 percent confidence level, 5 percent allowable error.

The statewide sampling plan was supplemented with an individual jurisdiction sampling plan. This was done so that reliable estimates of needs could be developed for selected local jurisdictions. These needs estimates, in turn, allowed analysis to determine the most appropriate formulas for distributing state-collected highway user tax revenues from the Highway Distribution Account (HDA) to individual local governments, as discussed in a subsequent chapter.

Roadway samples were drawn on a statistically random basis to achieve the desired levels of statistical reliability. These samples were identified on maps developed by the Idaho Transportation Department and could form the basis for any future updating of this 1989-1994 study.

A System Inventory Manual was prepared and inventory crews visited each roadway sample and recorded information regarding roadway geometrics, condition and other features. Contacts were made with local officials, to the extent this was practical, to review and supplement the inventory data. These data then were digitized and extensive validity and logic checks were made. After purging data entry errors, printouts of data were sent to the respective local jurisdictions who were requested to review the data and indicate any changes which were needed. Once these changes were made, the roadway inventory database for local jurisdictions was used as a basis for the determination of deficiencies and selection of improvements.

The field inventory process resulted in the collection of data for 5,918 miles of highways, or slightly over 20 percent of all local jurisdiction facilities. The actual sample exceeded the target of 5,845 miles by 73 miles.

**Bridges** - The Idaho Transportation Department maintains, and updates regularly, an extensive Structure Inventory and Appraisal data file. This file provided study information for 100 percent of all bridges (and other structures) which exceed 20 feet in length and, for the state system, structures between 10 and 20 feet in length. Additionally, data for structures between 10 and 20 feet on local

jurisdiction highways were collected in conjunction with the roadway field inventory.

**Railroad Grade Crossings** - In a similar manner, the Idaho Transportation Department maintains a file which provides information about each railroad grade crossing in the State. These data were utilized for purposes of this study.

**Summary** - A large, high quality database was compiled for purposes of this study. It comprised:

- 100 percent of all roadways on the state system and a sample with high statistical reliability of all local jurisdiction facilities;
- 100 percent of all bridges (and other structures) on the state and local systems; and,
- 100 percent of all railroad grade crossings on the state and local systems.

### **Needs Criteria**

Highway system needs are a reflection of the deficiency criteria and improvement standards employed in the needs assessment. For this study, it was determined that a very conservative approach should be taken because it was evident that there are insufficient resources to eliminate all system deficiencies. The study's tolerable conditions and improvement selection criteria, which actually control the needs results to a large extent, are much lower than existing officially adopted standards. Not only are they lower than standards recommended by the American Association of State Highway and Transportation Officials, they also are lower in some instances than the 3R Standards adopted by the Idaho Transportation Department for its "Level of Development Plan."

As a consequence, criteria adopted for the study's analyses mean that many (or all) unpaved roads will remain unpaved; many (or all) narrow roadways and bridges will not be widened; many (or all) miles with poor alignment will not be straightened; some deficient bridges will not be replaced; and traffic congestion will continue to exist, and grow, on some highways.

**Needs Alternatives** - Initially, three sets of criteria were used to produce preliminary estimates of highway system needs. These estimates were not refined further because they indicated that even what were considered to be conservative needs criteria produced needs estimates far in excess of funding resources from current sources. Consequently, it was determined that even more conservative criteria should be employed in the needs assessment. The two needs alternatives are based on the following criteria:

**Most Urgent Needs** - Includes costs to restore and retain the structural integrity of roadways and bridges so that pavements do not fail and bridges do not collapse. Also includes only the most urgent capacity and safety needs and paving selected roads which currently are not paved. Does not meet established standards and would result in reduced overall conditions.

**Structural Integrity Needs** - Includes only those costs to restore and retain the structural integrity of roadways and bridges. Does not include any capacity or safety improvements to overcome existing deficiencies or to accommodate future development and traffic growth. Does not include any projects to pave roads which currently are not paved.

These conditions are well below the accepted standards and practices of the Idaho Transportation Department and other highway agencies. Consequently, they do not constitute a recommendation. Instead, they provide a yardstick from which needs measurements were made as part of these analyses. These two needs alternatives help establish the magnitude of the highway problems which Idaho faces. Obviously, they do not include all road and street projects required to provide completely adequate facilities.

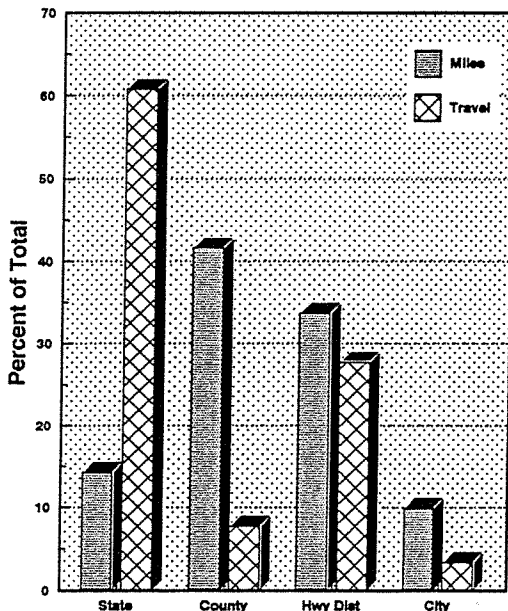
### **Road System Characteristics**

The characteristics of highways vary significantly by jurisdictional level. This, in turn, has a major impact upon highway system needs which were determined in this study.

**Miles and Travel** - The State is responsible for 4,931 miles, or 14 percent of all state and

local jurisdiction highways. The state system serves the principal traffic flows, particularly intercity travel. Consequently, the state system accounts for 61 percent of all vehicle miles of travel (VMT) on state and local jurisdiction highways. [Exhibit 26]

**Exhibit 26**  
**PERCENT OF HIGHWAY MILEAGE**  
**AND ANNUAL TRAVEL**  
**1989 - 1994**



Local jurisdictions are responsible for 29,116 miles which comprise 86 percent of all highways under state and local jurisdiction. In aggregate, travel on local jurisdiction highways represents 39 percent of the total on the state and local systems.

Counties are responsible for 14,183 miles of highways, of which 99 percent are in rural areas. County highways constitute 42 percent of all state and local mileage. However, travel on county highways is relatively light and only 8 percent of all travel is served by these highways.

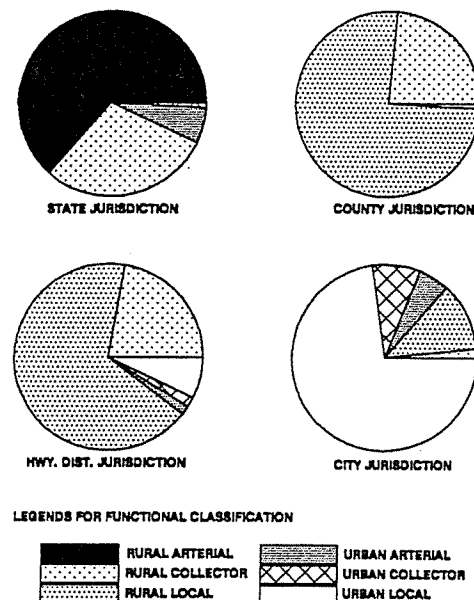
Highway districts are responsible for 11,511 miles of highways with 1,191 miles being located in urban areas. Mileage under the jurisdiction of highway districts represents 34 percent of all non-federal highways and carry 28 percent of all traffic. The highway district values used in this study include city streets in Ada County and the City of Sandpoint which are administered by the respective highway districts.

Cities are responsible for 3,422 miles of streets, excluding city streets in Ada County and the City of Sandpoint. City jurisdiction streets account for 10 percent of all mileage in the State and serve 3 percent of all travel.

**Functional Classification** - Arterial routes are the principal facilities for travel. Local access roads, on the other hand, predominately serve light travel volumes and provide access to individual residences, farms, etc. In between these two categories are collector roads which have a balance between the mobility and access functions. Collectors often collect traffic from local access facilities and channel it onto the arterial system.

Most highways (3,440 miles, or 70 percent) on the state system are classified as arterials with the remainder being collectors. [Exhibit 27]

**Exhibit 27**  
**TOTAL CENTERLINE HIGHWAY MILEAGE**  
**BY JURISDICTION**  
**BY FUNCTIONAL CLASSIFICATION**



A significant portion (24 percent) of all county highways are collectors (3,391 miles) or arterials (37 miles). The remaining 10,755 miles are local access roads serving residences, farms, etc.

Collectors (2,784 miles) and arterials (178 miles) comprise 26 percent of all highway district

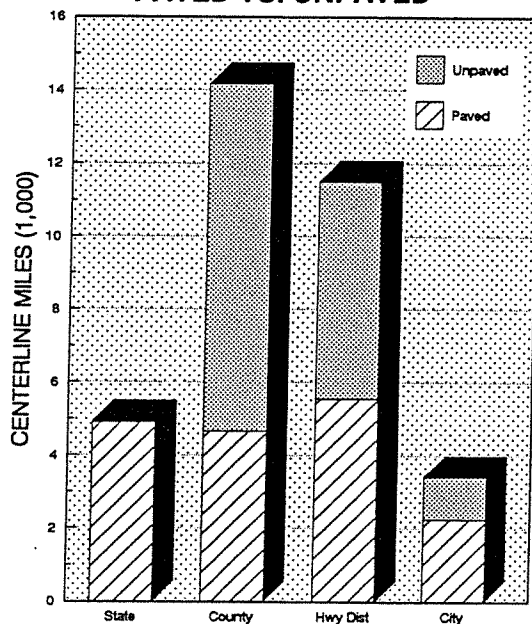


facilities. The remaining 8,549 miles are local access roads.

City jurisdictions are responsible for 345 miles of collectors and 183 miles of arterials which account for 15 percent of all city streets. Local access facilities under city jurisdiction total 2,893 miles.

**Paved and Unpaved Roads** - Virtually all of the state system has a paved surface. [Exhibit 28]

Exhibit 28  
**TOTAL MILEAGE BY JURISDICTION  
PAVED VS. UNPAVED**



There are 9,507 miles of unpaved roads on the county system, or 67 percent of the total.

Unpaved roads under highway district jurisdiction total 5,957 miles and account for 52 percent of all highway district roads.

Some 1,151 miles of city streets are unpaved. This constitutes 34 percent of the total system.

Unpaved roads on all four jurisdictional systems total 16,643 miles. This is 49 percent of all mileage which totals 34,407.

### **Backlog Deficiencies**

Criteria associated with the Most Urgent Needs scenario were used to identify those conditions

existing as of the beginning of 1989 which were considered deficient. As already indicated, these criteria do not identify all deficiencies, only those considered to be the most severe.

**Traffic Congestion** - Based on these criteria, some 137 miles of highways had congested traffic conditions. The state system has 79 miles of such facilities, highway districts have 43 miles and cities have 15 miles.

**Pavement Condition** - A total of 3,133 miles of paved highways were in poor condition and in need of resurfacing or reconstruction. Close to one-third of these (1,014 miles) were on the state system and slightly over another one-third (1,078 miles) were on highway district roads. The county system had 744 miles of such highways and cities had 297 miles.

**Unpaved Roads** - Clearly, it is not sensible or feasible to pave all roads. Nevertheless, the importance of certain roads is such that it makes economic sense to pave roads that are unpaved because of traffic volumes, trip lengths, and travel functions. Criteria used in the Most Urgent Needs scenario call for paving all collectors in both rural and urban areas plus all urban local access streets carrying over 250 vehicles per day. This would leave all rural local access roads and those urban local access streets with less than 250 vehicles per day unpaved if they had not already been paved.

With these criteria, there were 2,234 miles of gravel/dirt roads which warrant a paved road. These include 29 miles on the state system, 1,226 miles of county roads, 917 miles of highway district facilities and 62 miles of city jurisdiction streets.

**Roadway Geometrics** - While the width of many roadways is below design standards, it is not feasible to widen all roadways which are marginally narrow. The study adopted criteria which ignored minor width deficiencies. For instance, lane widths of 11 feet were deemed to be acceptable for arterial routes, 10-foot lanes were considered to be acceptable on collectors, and 9-foot lanes were considered tolerable on most local access roads and streets.

Even with these lenient criteria, it was discovered that, statewide, there are 7,908 miles which are excessively narrow. Narrow lanes (based

on study criteria) occur on 105 miles of state highways, 4,733 miles of county roads, 2,434 miles of highway districts roads and 636 miles of city streets.

While lane widths are the biggest geometric problem in terms of miles, there also are 292 miles which have deficient curves, grades, stopping sight distances or passing sight distances. Alignment deficiencies predominately occur on the state system which has 242 miles with such problems. Alignment deficiencies also are found on 15 miles of county roads, 23 miles on highway district facilities and 12 miles of city streets.

Altogether, there are 8,200 miles with geometric deficiencies statewide (7,908 miles with narrow lanes and 282 miles with deficient alignment).

**Deficient Bridges** - There were 1,413 bridges which had significant structural and/or functional deficiencies. This includes bridges with gross load deficiencies, poor condition and/or inadequate geometrics. Deficient bridges constitute 27 percent of all bridges.

Of the 1,009 bridges on the state system, 235 were deficient (23 percent). Out of 3,086 bridges on the county and highway district systems, 925 were deficient (30 percent). Deficient bridges on the city system totalled 253, or 22 percent of the 1,132 bridges under city jurisdiction.

### **Backlog and Future Needs**

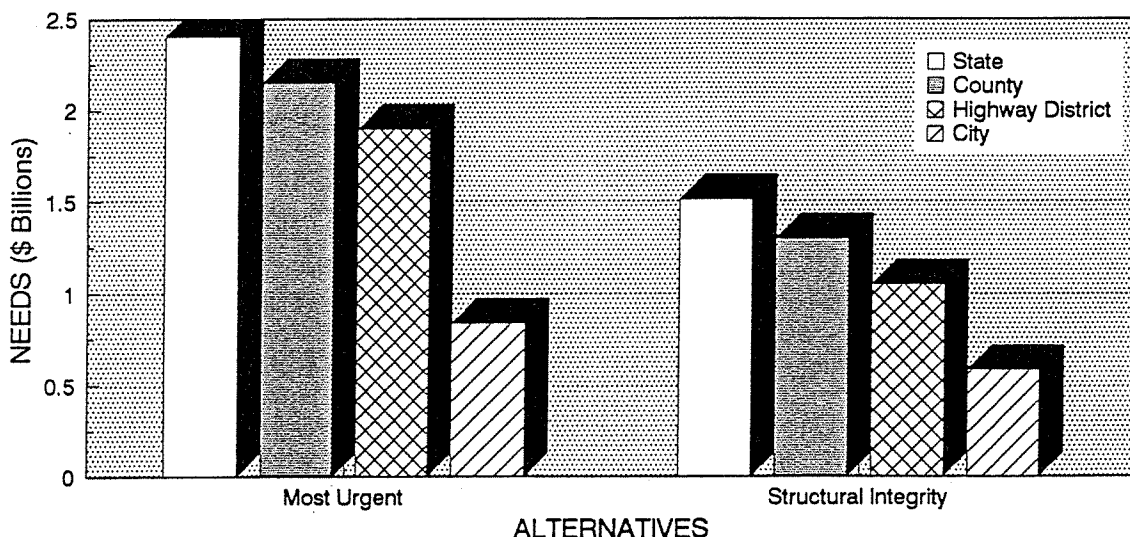
While study analyses identified a large number of roadways, bridges and railroad grade crossings with deficiencies, improvement selection criteria used in the needs assessment did not, in every instance, result in the identification of a construction improvement. This is particularly true in the case of the Structural Integrity Needs scenario which ignored all traffic capacity and geometric deficiencies as well as all warrants for paving gravel/dirt roads.

**Total Needs** - For all four jurisdictional levels, Most Urgent Needs for the 1989-1994 period total \$7.3 billion. As previously explained, this does not cover all needs required to provide completely adequate road facilities.

**7.3B Most Urgent Needs** for state highways total \$2.4 billion. With local jurisdictions being responsible for almost 86 percent of all non-federal highways, it is not surprising that, in aggregate, local jurisdictions needs exceed those on the state system. These local jurisdiction needs total \$4.9 billion, of which \$2.15 billion occurs on the county system, \$1.9 billion is for highway district roads and city needs are \$0.8 billion. [Exhibit 29]

**4.5B Structural Integrity Needs** amount to \$4.5 billion, or only 62 percent of Most Urgent Needs. This reduction is attributable to omitting all congestion and safety needs as well as not paving

**Exhibit 29**  
**TOTAL NEEDS**  
**1989-1994**



any of Idaho's 16,643 miles of unpaved roads (49 percent of all non-federal roads in the State are unpaved).

4.5B Structural Integrity Needs for state highways amount to \$1.5 billion while local jurisdiction needs for this scenario total \$2.9 billion. Of the local needs, \$1.3 billion is for county roads, \$1.05 billion is for highway districts and \$0.6 billion is for cities.

**Needs by Time Period** - Deficiencies existing at the beginning of 1989 which were sufficiently severe to warrant an improvement, based on the two sets of needs criteria, are denoted as backlog needs. That is, they are needs that should have been addressed previously but were deferred due to the shortage of highway funds.

The needs analysis also determined future needs that would develop in the 1989-1994 period. Future needs reflect traffic growth and the deterioration of pavements and bridges over time. Nevertheless, in the Structural Integrity Needs scenario, traffic growth was ignored as it relates to congestion needs.

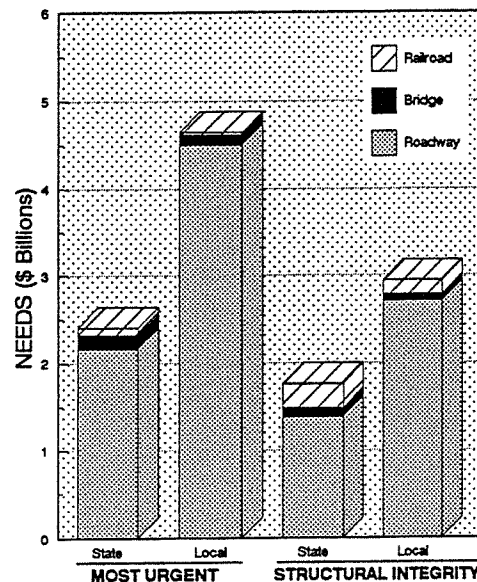
For state highways, the backlog of Most Urgent Needs totals \$1.1 billion. That is, 52 percent of Most Urgent Needs already existed at the beginning of 1989. For local jurisdictions, the backlog totals \$2.8 billion, or 56 percent of Most Urgent Needs. [Exhibit 30, next page]

Backlog needs are a smaller proportion of Structural Integrity Needs because certain needed improvements are not included. For state highways, backlog needs total \$0.6 billion and constitute 42 percent of Structural Integrity Needs. Local jurisdictions have backlog needs of \$1.1 billion which are 36 percent of Structural Integrity Needs.

**Facility Types** - Needs analyses cover roadways, bridges and railroad grade crossings. For Most Urgent Needs, roadway needs total \$6.7 billion, i.e. 91 percent of all needs. Bridge needs amount to \$0.3 billion and railroad grade crossing needs approach \$0.4 billion. [Exhibit 31]

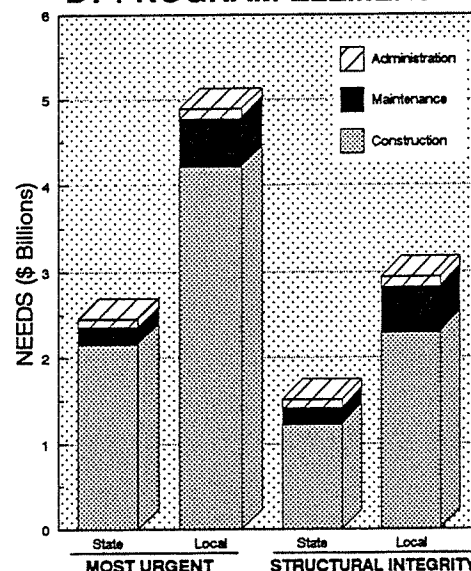
Roadways account for \$4.1 billion in Structural Integrity Needs, or 92 percent of the total. Bridge and railroad crossing needs each are a little less than \$0.2 billion in this scenario.

Exhibit 31  
TOTAL 1989-1994 NEEDS  
BY FACILITY TYPE



**Program Elements** - Needs also were categorized as construction, maintenance and administration. Most Urgent Construction Needs for the state system total \$2.1 billion and account for 88 percent of the total for this system. Construction needs are a smaller proportion of Structural Integrity Needs on the state system at 81 percent, reflecting the elimination of certain categories of construction projects. [Exhibit 32]

Exhibit 32  
TOTAL 1989-1994 NEEDS  
BY PROGRAM ELEMENT



**Exhibit 30**  
**NEEDS BY COST ELEMENT AND YEAR**  
**(\$1,000)**

**Most Urgent Needs**

<u>JURIS- DICTION STATE</u>	<u>YEAR</u>	<u>RDWY CONST</u>	<u>RDWY MAINT</u>	<u>TOTAL RDWY COST</u>	<u>BRIDGE CONST</u>	<u>BRIDGE MAINT</u>	<u>TOTAL BRIDGE COST</u>	<u>TOTAL RR CONST</u>	<u>ADMIN</u>	<u>TOTAL NEEDS</u>
	Backlog	1,075,395	0	1,075,395	109,605	0	109,605	70,066	0	1,255,066
	1989-1990	352,089	53,138	434,316	2,850	13,108	15,958	6,115	29,089	456,389
	1991-1992	251,759	54,179	335,432	8,187	13,122	21,309	312	29,494	357,053
	1993-1994	232,455	55,583	318,244	989	13,406	14,395	4,458	30,206	337,097
	Total	1,911,699	162,899	2,163,387	121,631	39,636	161,267	80,951	88,788	2,405,605
LOCAL	Backlog	2,399,305	0	2,399,305	89,750	0	89,750	267,634	0	2,756,689
	1989-1990	546,547	182,895	766,774	1,685	6,104	7,789	794	37,332	775,357
	1991-1992	397,776	182,799	618,165	2,549	6,108	8,657	0	37,590	626,822
	1993-1994	499,085	180,958	717,158	1,575	6,134	7,709	7,339	37,115	732,206
	Total	3,842,714	546,651	4,501,402	95,558	18,346	113,904	275,766	112,037	4,891,072

**Structural Integrity Needs**

<u>JURIS- DICTION STATE</u>	<u>YEAR</u>	<u>RDWY CONST</u>	<u>RDWY MAINT</u>	<u>TOTAL RDWY COST</u>	<u>BRIDGE CONST</u>	<u>BRIDGE MAINT</u>	<u>TOTAL BRIDGE COST</u>	<u>TOTAL RR CONST</u>	<u>ADMIN</u>	<u>TOTAL NEEDS</u>
	Backlog	552,010	0	552,010	55,036	0	55,036	22,816	0	629,862
	1989-1990	280,619	52,403	361,880	2,894	12,332	15,266	865	28,858	377,971
	1991-1992	164,176	53,713	247,314	6,114	12,362	18,476	312	29,425	266,102
	1993-1994	138,775	54,743	223,611	1,185	12,532	13,717	4,458	30,093	241,786
	Total	1,135,580	160,859	1,384,813	65,229	37,226	102,455	28,451	88,374	1,515,719
LOCAL	Backlog	862,870	0	862,870	46,809	0	46,809	152,134	0	1,061,813
	1989-1990	418,092	172,182	627,153	7,898	5,407	13,305	794	36,879	641,252
	1991-1992	387,387	172,246	596,653	1,680	5,504	7,184	0	37,020	603,837
	1993-1994	410,453	172,042	619,492	1,037	5,535	6,572	7,339	36,997	633,403
	Total	2,078,802	516,470	2,706,168	57,425	16,447	73,872	160,266	110,896	2,940,306

NOTE: Details may not add to totals due to rounding.

Most Urgent Construction Needs for local jurisdictions amount to \$4.2 billion, i.e. 86 percent of total local needs. This proportion drops to 78 percent in the Structural Integrity Needs scenario.

**Summary** - Neither of the two needs alternatives used in this study include all highway

system needs. Even so, the extremely conservative approach taken for these needs assessments result in very considerable requirements for each of the four jurisdictional levels. In large measure, this is in consequence of substantial backlog construction needs which have developed due to past neglect. As noted, needs vary by jurisdictional level and needs scenario. [Exhibit 33]

## Exhibit 33

## TOTAL ESTIMATED NEEDS: 1989 - 1994

ELEMENT AND JURISDICTION	NEEDS ALTERNATIVE (\$1,000)	
	Most Urgent	Structural Integrity
<b>ROADWAYS</b>		
STATE		
Construction	1,911,699	1,135,580
Maintenance	162,899	160,859
Administration	88,788	88,374
SUBTOTAL	2,163,386	1,384,813
COUNTY		
Construction	1,756,998	948,401
Maintenance	232,936	218,435
Administration	45,314	44,674
SUBTOTAL	2,035,248	1,211,510
HIGHWAY DISTRICT		
Construction	1,511,417	740,700
Maintenance	207,960	195,129
Administration	33,853	33,516
SUBTOTAL	1,753,230	969,345
CITY		
Construction	574,298	389,701
Maintenance	105,754	102,906
Administration	32,869	32,706
SUBTOTAL	712,921	525,313
ALL LOCAL JURISDICTIONS		
Construction	3,842,714	2,078,802
Maintenance	546,651	516,470
Administration	112,037	110,896
SUBTOTAL	4,501,402	2,706,168
TOTAL ALL ROADWAYS		
Construction	5,754,413	3,214,382
Maintenance	709,550	677,329
Administration	200,825	199,270
TOTAL	6,664,788	4,090,981

NOTE: Details may not add to totals due to rounding.

**Exhibit 33 (continued)**  
**TOTAL ESTIMATED NEEDS: 1989 - 1994**

<b><u>ELEMENT AND JURISDICTION</u></b>	<b><u>NEEDS ALTERNATIVE (\$1,000)</u></b>	
	<b><u>Most Urgent</u></b>	<b><u>Structural Integrity</u></b>
<b><u>BRIDGES</u></b>		
STATE		
Construction	121,631	65,229
Maintenance	39,636	37,226
SUBTOTAL	161,267	102,455
COUNTY		
Construction	33,665	20,764
Maintenance	5,942	5,276
SUBTOTAL	39,607	26,040
HIGHWAY DISTRICT		
Construction	29,277	16,292
Maintenance	5,998	5,333
SUBTOTAL	35,275	21,625
CITY		
Construction	32,616	20,368
Maintenance	6,409	5,837
SUBTOTAL	39,025	26,205
ALL LOCAL JURISDICTIONS		
Construction	95,558	57,425
Maintenance	18,346	16,447
SUBTOTAL	113,904	73,872
ALL BRIDGES		
Construction	217,189	122,654
Maintenance	57,982	53,673
TOTAL	275,171	176,327
<b><u>RAILROAD CROSSINGS</u></b>		
STATE	80,951	28,451
COUNTY	75,954	65,460
HIGHWAY DISTRICT	111,177	61,691
CITY	88,635	33,115
ALL LOCAL JURISDICTIONS	275,766	160,266
ALL RAILROAD CROSSINGS	356,717	188,717

NOTE: Details may not add to totals due to rounding.

Exhibit 33 (continued)  
**TOTAL ESTIMATED NEEDS: 1989 - 1994**

<b>ELEMENT AND JURISDICTION</b>	<b>NEEDS ALTERNATIVE (\$1,000)</b>	
	<b><u>Most Urgent</u></b>	<b><u>Structural Integrity</u></b>
<b><u>ALL SYSTEMS</u></b>		
STATE	2,405,604	1,515,719
ALL LOCAL JURISDICTIONS	4,891,072	2,940,306
GRAND TOTAL	7,296,676	4,456,025
<b><u>LOCAL JURISDICTIONS</u></b>		
COUNTY		
Roadways	2,035,248	1,211,510
Bridges	39,607	26,040
Railroad Crossings	<u>75,954</u>	<u>65,460</u>
TOTAL	2,150,809	1,303,010
HIGHWAY DISTRICTS		
Roadways	1,753,230	969,345
Bridges	35,275	21,625
Railroad Crossings	<u>111,177</u>	<u>61,691</u>
TOTAL	1,899,682	1,052,661
CITY		
Roadways	712,921	525,313
Bridges	39,025	26,205
Railroad Crossings	<u>88,635</u>	<u>33,115</u>
TOTAL	840,581	584,633

NOTE: Details may not add to totals due to rounding.





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## Chapter 4

# HIGHWAY FINANCE

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Idaho is similar to other states regarding sources of funding for highways. Both highway user and non-user (general public) sources are used in recognition that both groups benefit from highways. The highway needs reported in the preceding chapter reflect requirements to provide highways for travel mobility and for land access purposes.

The two principal sources of highway user revenues are federal-aid and state user taxes. Federal-aid derives from the U.S. Highway Trust Fund which receives revenues from federal user taxes such as the 9-cent per gallon tax imposed on gasoline. Idaho user tax revenues derive from the State's fuel taxes, vehicle registration fees and gross weight-distance tax with funds being deposited in the Highway Distribution Account.

The third major source of funding for highways is property taxes and general fund appropriations which are generated by local governments. Also, local governments receive distributions of State sales tax revenues and a portion of these funds is applied to roads.

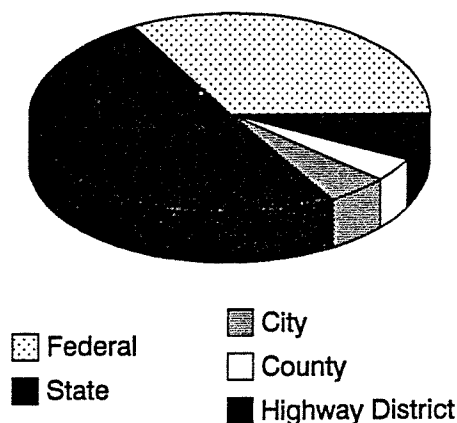
In 1987 (the latest year for which full records were available at the time of these analyses), federal funds provided 33 percent of all highway revenues, state user taxes provided 51 percent and local jurisdiction funds provided 16 percent. [Exhibit 34] During the period 1989-1994, it is estimated that these proportions will be 29 percent federal, 54 percent state and 18 percent local.

### Federal-Aid for Highways

Idaho, like all states, receives federal-aid from the Highway Trust Fund largely based on various distribution formulas. Additionally, Idaho can "compete" with other states for certain discretionary federal funds.

Federal highway funds provided to Idaho in 1987 totalled \$84 million. Certain categories of federal funds are made available to local jurisdictions with

**Exhibit 34**  
**HIGHWAY FUNDING SOURCES**  
**FY 1987**



the remainder being spent on state highways. In 1987, \$8 million of the federal aid receipts were used for local jurisdiction highway programs. This is slightly more than 9 percent of all such funds.

The Federal Government currently is developing a National Transportation Policy which is expected to influence heavily the forthcoming 1991 Surface Transportation Assistance Act. With completion of the construction of the Interstate Highway System and growing concerns about maintenance and repair of the entire highway network, it is likely that major changes will be made in future federal programs for highways. At the time of these analyses, the specific direction of federal programs was unknown. Therefore, for study purposes, it was assumed that Idaho will receive future federal funds consistent with past and current trends, but probably with greater options as to how such funds may be spent. The U.S. Transportation Secretary, in a speech to the American Association of State Highway and

Transportation Officials at their 1989 annual meeting, indicated that more local funds will be required in the years ahead to qualify for federal funding and that local projects with higher amounts of locally-generated matching funds will receive higher priority for federal funding.

### State Highway User Revenues

State funds are derived from eleven user fees collected throughout the State. The gross revenues from these fees during the 1987 fiscal year totaled almost \$129 million. [Exhibit 25]

#### **Exhibit 35**

### **STATE HIGHWAY USER TAX RECEIPTS Fiscal Year 1987**

Motor Fuel Taxes	\$63,166,860
Special Fuel Taxes	13,949,167
Weight Distance Taxes	17,622,820
Vehicle Registration	20,961,628
State Truck Registration	3,734,708
96 Hour and Single Trip Permits	2,265,626
Caravan Fees	118,922
Misc. Registration and Plate Fees	2,909,660
Reports and Fines	1,523,091
Recreational Vehicles	538,836
Operators' Licenses	1,897,231
	<u>\$128,688,549</u>

SOURCE: Idaho Transportation Department

The majority of state highway user tax receipts (59.9%) are collected through fuel taxes. This percentage will increase significantly after 1987 due to the 3.5 cent per gallon increase in motor fuel tax rates per gallon that took effect in 1988.<sup>5</sup>

### Idaho's Tax on Motor Fuels

For highway funding purposes, Idaho levies a per-gallon tax on gasoline, special fuel (diesel) and gasohol. The revenue from these taxes totalled \$77 million in 1987. [Exhibit 36] While separate sources of revenue, gasoline and special fuel are taxed at the same rate in Idaho. Gasohol, however, is taxed at 3.5 cents less per gallon. The term "motor fuels" will refer to all three fuel types.

**Tax Rate** - The tax rate on motor fuels in Idaho in 1968 was 6 cents per gallon. Currently, the tax rate has risen to 18 cents per gallon (14.5 for gasohol).

Although the 300 percent rise over the past 20 years may seem high, the inflation adjusted rate per gallon is lower now than it was in 1967. The 18-cents tax today is equivalent in purchasing power to about a 5-cents tax in 1967; or less than the 6-cents tax that was in effect at that time. In fact, since 1975, the effective tax rate has been less than it was in 1967. Periodic tax rate increases by the Legislature have not been sufficient to retain the effective tax rate at the level which existed prior to 1975. [Exhibit 37]

**Tax Rate Comparison With Other States** - All states have been confronted with the need to raise additional funds for highways, and the trend toward higher tax rates for motor fuels is found in nearly all states. In fact, during 1989, 18 state legislatures and the District of Columbia voted to increase motor fuel tax rates.

Many states, like Idaho, have simply raised the cents-per-gallon rates. Others have added a franchise tax on oil companies operating in the state, disallowed the traditional exemption of motor fuel from state sales taxes, or changed the

<sup>5</sup> Since local jurisdiction financial reports were not available for 1988 at the time of these analyses, 1987 figures are used in this presentation. It should be noted, however, that motor fuel taxes rose seven percent between 1987-1988, and are estimated to rise 23 percent between 1988-1989, due, principally, to the increase in the cents-per-gallon tax rate.

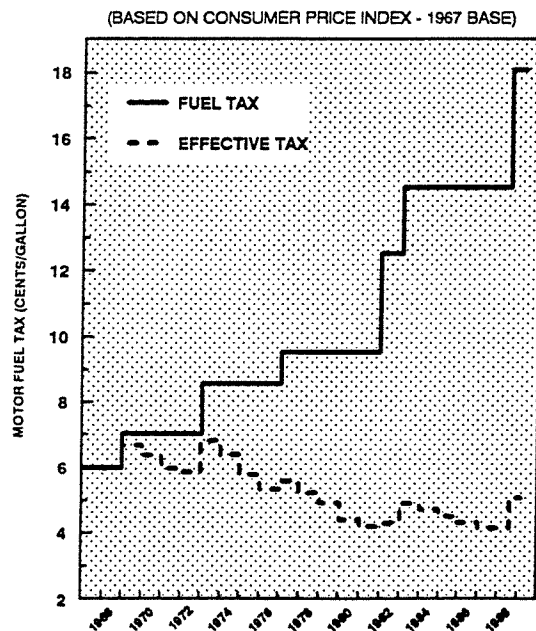
**Exhibit 36**  
**FUEL CONSUMPTION AND TAX REVENUES**  
**1985-1987**

<u>FISCAL YEAR</u>	<u>GASOLINE</u> (Millions of Gallons)	<u>DIESEL</u> (Millions of Gallons)	<u>GASOHOL</u> (Millions of Gallons)	<u>TOTAL FUEL CONSUMPTION</u> (Millions of Gallons)	<u>TOTAL REVENUE</u> (\$ Thousands)
1985	440.7	105.6	11.9	558.2	76,086
1986	424.7	99.8	26.8	551.3	73,187
1987	447.9	101.9	14.8	564.6	77,116

SOURCE: Idaho Transportation Department

Note: Decline in gasohol consumption in 1987 due to vapor lock problems.

**Exhibit 37**  
**INFLATION IMPACT ON FUEL TAXES IN IDAHO**



<u>YEAR</u>	<u>FUEL TAX RATE</u>	<u>EFFECTIVE RATE</u> (1967 \$)
1967	6.0	6.0
1968	7.0	6.7
1972	8.5	6.8
1976	9.5	5.6
1981	11.5	4.2
1982	12.5	4.3
1983	14.5	4.9
1988	18.0	5.1

SOURCES: U.S. Department of Labor, and  
U.S. Department of Transportation.

**Exhibit 38**  
**STATE MOTOR FUEL TAX RATES**  
 (cents per gallon)

STATE	GAS	DIESEL	GAS- OHOL	ADDED TAX %	LOCAL OPTION	STATE	GAS	DIESEL	GAS- OHOL	ADDED TAX %	LOCAL OPTION
Alabama	13.0	14.0	13.0		L	Montana	20.0	20.0	20.0		
Alaska	8.0	8.0	0.0			Nebraska (A)	22.0	22.0	19.0		
Arizona	17.0	17.0	17.0			Nevada	18.0	20.0	18.0		L
Arkansas	13.5	12.5	13.5			New Hampshire	14.0	14.0	14.0		
California (D)	9.0	9.0	9.0	6.25	L	New Jersey	10.5	13.5	4.5		
Colorado	20.0	20.5	20.0			New Mexico	16.2	16.2	13.2		L
Connecticut (C)	20.0	20.0	19.0	3.0		New York (C)	8.0	10.0	8.0	6.8	L
Delaware	16.0	16.0	16.0			North Carolina (A)	21.2	21.2	21.2		
D.C.	18.0	18.0	18.0			North Dakota	17.0	17.0	13.0		
Florida (A)	9.7	9.7	9.7		L	Ohio (A)	18.0	18.0	18.0		
Georgia (C)	7.5	7.5	7.5	4.0		Oklahoma	16.0	13.0	16.0		
Hawaii (C)	11.0	11.0	11.0	4.0	L	Oregon (B)	16.0	16.0	16.0		L
Idaho	18.0	18.0	14.0			Pennsylvania (C)	12.0	12.0	12.0	6.0	
Illinois (D)	16.0	18.5	16.0	6.0	L	Rhode Island (A)	20.0	20.0	20.0		
Indiana (C)	15.0	16.0	15.0	5.0		South Carolina	16.0	16.0	10.0		
Iowa	20.0	22.5	19.0			South Dakota	18.0	18.0	16.0		L
Kansas (A)	15.0	17.0	15.0			Tennessee	21.0	17.0	21.0		L
Kentucky (A)	15.0	12.0	15.0			Texas	15.0	15.0	15.0		
Louisiana (D)	16.0	16.0	16.0	3.0		Utah	19.0	19.0	19.0		
Maine	17.0	20.0	17.0			Vermont	16.0	17.0	16.0		
Maryland	18.5	18.5	18.5			Virginia	17.7	16.2	17.7		L
Massachusetts (A)	11.0	11.0	11.0			Washington	18.0	18.0	16.2		
Michigan (A,C)	15.0	15.0	15.0	4.0		West Virginia (A)	20.4	20.4	20.4		
Minnesota	20.0	20.0	18.0			Wisconsin (A)	20.8	20.8	20.8		
Mississippi	18.0	18.0	18.0			Wyoming	9.0	9.0	5.0		
Missouri	11.0	11.0	11.0								

NOTES: (A) Variable tax expressed in cents per gallon.  
 (B) PA: includes wholesale tax of 6%, OR: large trucks are exempt, instead are assessed weight-distance taxes.

(C) Added tax is levied on average price per gallon and federal tax.

(D) Added tax is levied on average price per gallon, federal tax and state tax.

SOURCE: Highway User's Federation, December 28, 1989.

cents-per-gallon tax to a variable tax based on selected parameters (such as inflation rates and fuel consumption).

Of the 50 states and Washington, D.C., Idaho's per gallon rate is equalled or exceeded by 20 other states (as of December 1989). [Exhibit 38] Significant aspects in the comparison of state fuel tax rates include:

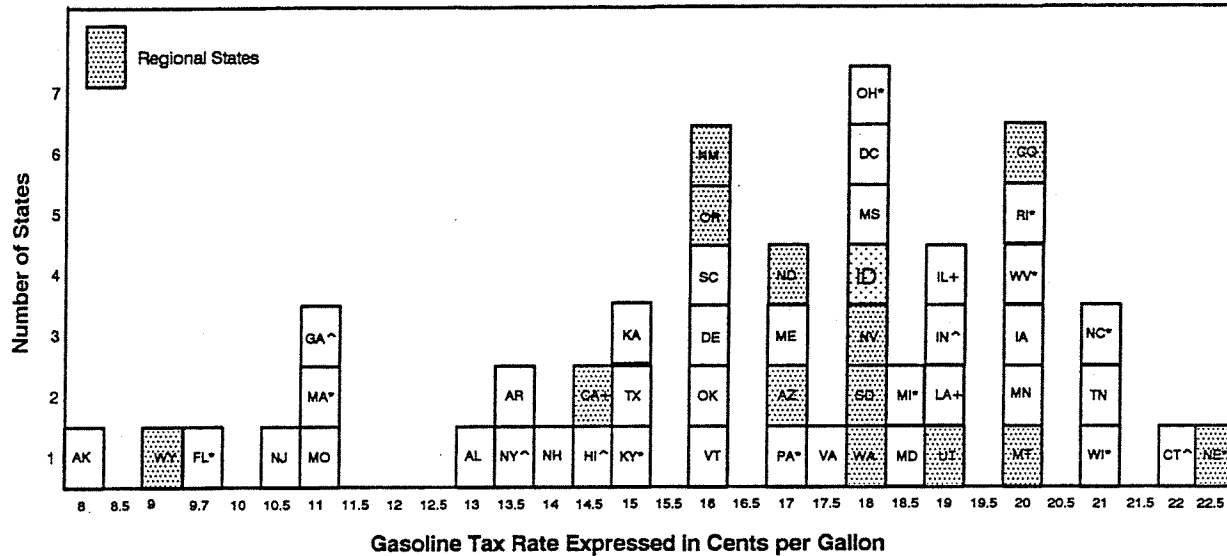
- Ten states levy their taxes on a variable basis.
- Ten states also levy an "Added Tax" calculated as a percent of the fuel price (sales tax).
- Thirteen states also allow a "Local Option" tax.

- Only Alaska still allows a full exemption on gasohol.
- Sixteen states levy a different tax on diesel than on gasoline.

Taxation of motor fuels in the 10 states which levy a sales tax on motor fuels is significantly affected by this added tax on motorists. [Exhibit 39] If this added tax is taken into account, 23 states tax motor fuels at a level equal to, or in excess of, the 18 cents per gallon levied in Idaho.

**Fuel Tax Revenues** - Total revenues from motor fuel taxes rose from \$27.5 million in 1970 to \$77.3 million in 1986 in response to increased consumption and fuel tax rates. However, fuel tax revenues actually have placed a smaller burden on the personal income of Idaho residents during this period. [Exhibit 40] In 1970, Idaho's fuel tax

**Exhibit 39**  
**STATE GASOLINE TAX RATES INCLUSIVE OF SALES TAX**  
**December 28, 1989**



\* Variable tax expressed in cents per gallon

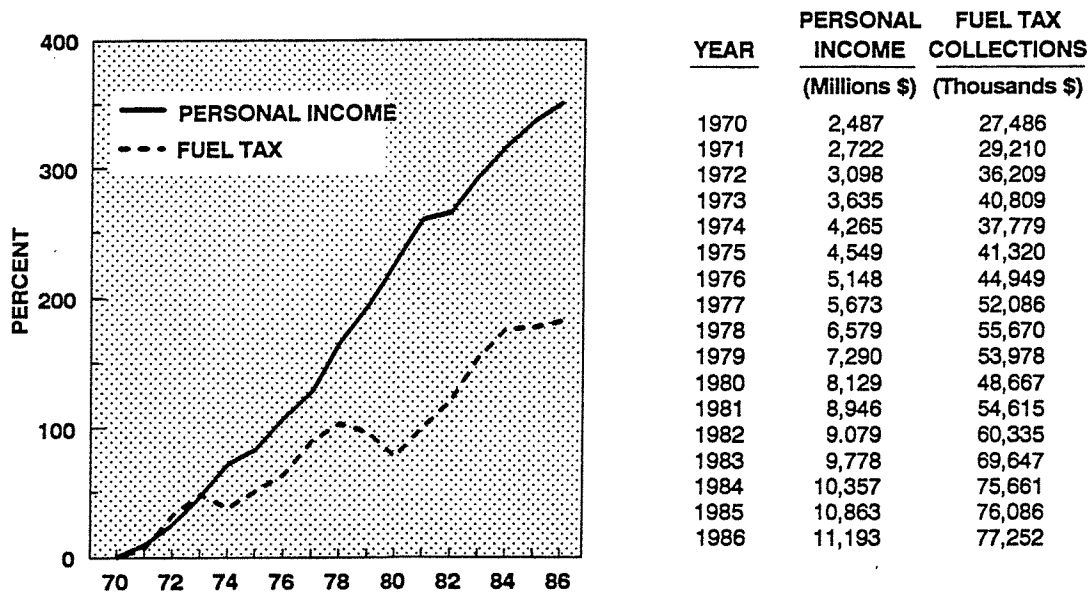
# PA: includes wholesale tax of 6%, OR: large trucks are exempt, instead are assessed weight distance taxes.

^ State sales tax is levied on average price per gallon of \$.75 and federal tax of \$.09 per gallon.

+ State sales tax is levied on average price per gallon of \$.75, federal tax of \$.09 per gallon and state gasoline tax.

SOURCE: Highway Users Federation and State Tax Commission where sales tax is applicable.

**Exhibit 40**  
**IDAHO PERSONAL INCOME & FUEL TAX GROWTH COMPARISONS**



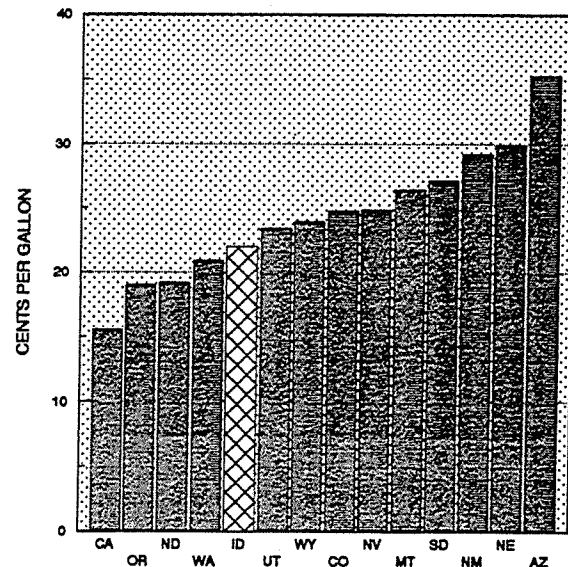
SOURCE: Bureau of Economic Analysis, July, 1988.  
 U.S. Department of Transportation.

collections were 1.1 percent of total personal income for the State. By 1986, this had reduced to 0.7 percent. Given the economic value of highways to Idaho, user revenues place a very small burden on the citizens of the State.

### Equivalence of Total State Highway Funding

Comparison of fuel taxes alone presents only one dimension of the user tax relationship between states. Idaho does not use the full array of highway financing measures as used in other states. A more complete picture is obtained by converting all state road funding to the equivalent cents-per-gallon rate that would produce the same amount of highway user revenue. This broader view of state funding shows that Idaho has the fifth lowest rate of the fourteen states in the region. [Exhibits 41 and 42]

**Exhibit 42  
EQUIVALENT TAX REVENUES**



**Exhibit 41**

### **EQUIVALENT FUEL TAX RATES (cents per gallon)**

STATE	BASIC RATE PER GALLON	ADDED SALES TAX	LOCAL OPTION	EQUIVALENT		TOTAL CENTS PER GALLON
				WEIGHT DISTANCE TAX ON TRUCKS	EQUIVALENT OF OTHER HIGHWAY RECEIPTS (1)	
CALIFORNIA 2,3	9.0	4.5	0.4		1.7	15.6
OREGON 3,5	16.0		2.3	9.3	0.7	19.0
N. DAKOTA	17.0			0.2	2.0	19.2
WASHINGTON	18.0				2.9	20.9
IDAHO	18.0			4.0	0.0	22.0
UTAH	19.0			0.4	4.1	23.4
WYOMING 4	9.0			3.0	11.8	23.9
COLORADO	18.0				6.7	24.7
NEVADA 3	18.0		3.8	2.6	0.5	24.8
MONTANA	20.0				6.4	26.4
S. DAKOTA	18.0				9.1	27.1
NEW MEXICO	16.2			4.4	8.5	29.2
NEBRASKA	22.3				7.6	29.9
ARIZONA 3,6	17.0			4.4	13.9	35.3

1 Consists of revenues and receipts from: Road Tolls, Appropriations from General Funds, Other State Imposts and Miscellaneous Receipts.

2 6% Sales tax multiplied by average \$.75 per gallon of gasoline.

3 County Option tax multiplied by average \$.75 per gallon of gasoline (0.5% in CA, 5.0% in NV and 3.0% in Oregon).

4 In Wyoming, other state Imposts include a severance tax on oil.

5 In Oregon, any vehicle with a Public Utilities Permit and engaged in a commercial enterprise or any private enterprise vehicle under 8,000 pounds is assessed a weight distance tax, but will not pay a diesel fuel tax. To avoid double counting, the EQUIVALENT WEIGHT DISTANCE TAX on HEAVY TRUCKS is not included in the TOTAL CENTES per GALLON FIGURE.

6 In Arizona, other state Imposts include: (1) a half cent sales tax on all purchases in Maricopa county, which generated \$74.9 million in 1986, and (2) a vehicle license tax in lieu of a property tax, which generated \$65.5 million in 1986.

SOURCE: Highway Users Federation.

AZ, CA, NV and OR Department of Revenue.

AZ, OR and WY Department of Transportation.

Taking all state financing measures into account, Arizona produces the equivalent of over 35 cents per gallon. Much of this comes from a sales tax for transportation purposes on an automobile-in-lieu tax. It is also noteworthy that Wyoming's severance tax yields the equivalent of an extra 12 cents per gallon.

### Weight Distance Tax

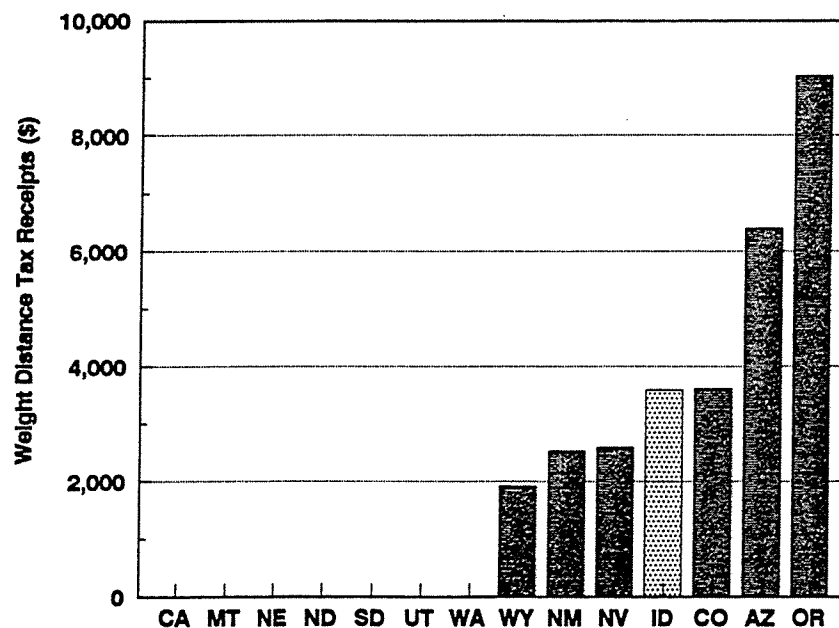
In attempting to allocate highway user costs judiciously, many states have implemented a weight-distance tax on heavy trucks. Idaho's weight-distance taxes are assessed on all vehicles of 60,001 pounds or more on a mileage basis. [Exhibit 43] Comparatively, Idaho's weight distance taxes are average for the region for the heavier trucks. [Exhibit 44]

### Exhibit 43 IDAHO'S WEIGHT-DISTANCE TAX RATES

<u>WEIGHT</u>	<u>MILLS PER MILE</u>
60,001-62,000	30.05
62,001-64,000	31.35
64,001-66,000	32.60
66,001-68,000	33.90
68,001-70,000	35.15
70,001-72,000	36.40
72,001-74,000	38.55
74,001-76,000	40.65
76,001-78,000	42.75
78,001-80,000	44.90

SOURCE: Idaho Transportation Department, *Idaho Motor Vehicle Laws* - 1/1/89

### Exhibit 44 WEIGHT-DISTANCE TAXES For a 80,000 lb. Diesel-Powered 5-Axle Tractor Semi-Trailer - Contract Carrier



SOURCE: U.S. Department of Transportation, Road User & Property Taxes - 1987.

Nevertheless, Idaho only applies the weight-distance tax to vehicles of 60,001 lbs. or more. Other states apply their weight-distance tax to a wider range of trucks. [Exhibit 45]

60,001 lbs. For example, a 60,000 lb. truck would pay a \$515 registration fee in Idaho while a 60,001 lb. truck would pay \$120. [Exhibit 46]

Furthermore, vehicle registrations for trucks in Idaho that are assessed weight-distance taxes (60,001 lbs. and over) drop significantly from the registration fees charged commercial trucks under

### Vehicle Registration Revenues

There was an increase in both the number of registered vehicles and registration revenues

### Exhibit 45 TYPICAL WEIGHT-DISTANCE TAXES CONTRACT CARRIERS

STATE	VEHICLE CLASS - LARGE COMBINATION TRUCKS				
	40,000 lb. Semi-Trailer	60,000 lb. Semi-Trailer	80,000 lb. Semi-Trailer	80,000 lb. Semi + Full Tr.	80,000 lb. Truck-Full Tr.
* ARIZONA	\$753	\$1,695	\$6,400	\$6,400	\$6,400
ARKANSAS	0	0	175	175	175
* COLORADO	823	1,651	3,615	3,465	3,974
* IDAHO	(1)	(1)	3,592	3,592	3,592
* NEVADA	1,300	1,950	2,600	2,600	2,600
NEW YORK	880	1,320	2,160	0	1,120
* NEW MEXICO	484	1,300	2,534	2,534	2,534
OHIO	400	900	1,600	2,000	1,600
* OREGON	2,600	5,700	9,040	9,040	9,040
* WYOMING	506	1,080	1,920	1,920	1,920
AVERAGE	\$775	\$1,560	\$3,364	\$3,173	\$3,296

\* Regional States.

NOTE: Private carrier W-D tax receipts are virtually the same with the exception of WY, which does not tax private carriers.

(1) Idaho's weight-distance tax applies to trucks of 60,001 lbs. or more.

SOURCES: U.S. Department of Transportation, Road User & Property Taxes - 1987,  
and, Idaho Transportation Department, Idaho Motor Vehicle Laws, 1/1/89.

### Exhibit 46 REGISTRATION FEES

STATE	VEHICLE CLASS - LARGE TRUCKS				
	40,000 lb. Semi-Trailer	60,000 lb. Semi-Trailer	80,000 lb. Semi-Trailer	80,000 lb. Semi + Full Tr.	80,000 lb. Truck-Full Tr.
ARIZONA	\$529	\$745	\$979	\$1,028	\$979
CALIFORNIA	443	760	1,154	950	1,104
COLORADO	36	36	36	47	36
IDAHO	360	515	120	120	120
MONTANA	24	24	24	36	24
NEBRASKA	418	668	938	943	938
NEVADA	184	264	336	348	336
NEW MEXICO	50	75	75	75	75
N. DAKOTA	426	740	1,045	1,060	1,045
OREGON	105	155	205	200	205
S. DAKOTA	660	1,060	1,460	1,470	1,460
UTAH	220	370	570	580	570
WASHINGTON	350	572	1,121	1,156	1,121
WYOMING	120	120	120	180	120
AVERAGE	\$277	\$437	\$586	\$587	\$582

SOURCES: U.S. Department of Transportation, Road User & Property Taxes - 1987  
and, Idaho Transportation Department, Idaho Motor Vehicle Laws, 1/1/89.



between 1976 and 1987. [Exhibit 47] The majority of the rise in both categories took place between 1976 and 1981. The 1982-1987 period reflects little change in either category, which could be explained by the fact that Idaho's population only rose two percent from 978,000 in 1982 to 1,000,000 in 1987.

**Exhibit 47**  
**IDAHO MOTOR VEHICLE REGISTRATIONS**  
**AND REVENUE**  
**BY CALENDAR YEAR**

<u>YEAR</u>	<u>REGISTERED VEHICLES</u> (thousands)	<u>REVENUE</u> (thousands)
1976	682	\$ 14,480
1977	718	16,869
1978	763	18,315
1979	782	18,284
1980	834	19,750
1981	857	22,780
1982	872	23,597
1983	877	23,385
1984	849	24,028
1985	854	24,558
1986	869	24,984
1987	878 *	25,196 *
<u>CHANGE</u>		
1976-1981	25.7%	57.3%
1982-1987	0.8%	6.8%

\* Estimated based on FY 1987 ITD data and comparison of 1976-1986 and U.S. DOT figures.

The annual fee for operating a not-for-hire motor vehicle under 8,000 pounds is levied according to the vehicle's age. [Exhibit 48] Registration fees for vehicles over 8,000 lbs. are based on vehicle weight. [Exhibit 49]

**Exhibit 48**  
**ANNUAL VEHICLE REGISTRATION FEES**  
**For Not-For-Hire**  
**Vehicles Under 8,000 lbs.**

<u>VEHICLE AGE</u>	<u>FEE</u>
1-2 years	36.48
3-4 years	33.48
5-6 years	26.28
7-8 years	22.68
Over 8 years	16.08

SOURCE: Idaho Transportation Department, Idaho Motor Vehicle Laws - 1/1/89.

**Exhibit 49**  
**ANNUAL VEHICLE REGISTRATION FEES**  
**Vehicles Over 8,000 lbs.**

<u>Weight</u>	<u>Non Commercial &amp; Farm Vehicles</u>	<u>Commerical Fee</u>
8,001 - 16,000	\$31.08	\$ 30.60
16,001 - 26,000	61.08	143.40
26,001 - 30,000	91.68	223.80
30,001 - 40,000	130.08	291.90
40,001 - 50,000	188.28	360.00
50,001 - 60,000	311.68	515.40
Over 60,000	120.00	120.00

SOURCE: Idaho Transportation Department, Idaho Motor Vehicle Laws - 1/1/89.

Currently, foreign-based truck fleets have the option of being charged on a pro rate formula instead of a flat registration fee if the state where they are registered is a member of the

International Register Plan. The Idaho registration fee is computed as follows:

$$\text{Idaho Fee} = \text{Normal Fee} \times \frac{\text{Idaho Travel}}{\text{Total Travel}}$$

These out-of-state operations drastically lower the state registration factor, thereby resulting in unusually low registration fees.

#### Temporary 96 Hour, Single Trip and Caravan Fees

In lieu of paying a full licensing and registration fee, non-resident vehicles over 8,000 pounds may pay a base issuance fee of \$12.00 per trip for a period not to exceed 96 hours. In addition, vehicles with a maximum gross weight over 16,000 lbs. are assessed a weight-distance fee. [Exhibit 50]

A single trip permit of \$12.00 in lieu of a license or registration fee may also be granted for the unladen single trip of a vehicle between the points of origin and destination as set forth on the permit. Similarly, a \$12.00 fee is collected for each vehicle which is issued a caravanning permit.

#### **Exhibit 50 NON-RESIDENT TEMPORARY WEIGHT-DISTANCE FEES**

<u>REGISTERED WEIGHT</u>	<u>MILLS PER MILE</u>
16,001-26,000	24.75
26,001-40,000	35.80
40,001-50,000	44.20
50,001-60,000	54.25
60,001-80,000	78.95
Over 80,000	116.65

SOURCE: Idaho Transportation Department, Idaho Motor Vehicle Laws - 1/1/89.

#### Other State Revenue Sources

**Operator's Licenses** - Idaho residents are required to pay a \$13.50 fee for an operator's license or a \$15.50 fee for a chauffeur's license. The licenses are valid until the licensee's birthday in the third year following the issuance of the license. The license renewal fee is \$3.00. Instruction permits cost \$4.00 and a license fee of \$25.00 is charged anyone who elects to take a driver training course in a public school.

**Miscellaneous Registration and Plate Fees** - A \$1.70 license plate fee is assessed in addition to the vehicle registration fees. These plate fees and other miscellaneous vehicle registrations generated \$2.9 million in 1987, roughly 2.3 percent of total state highway user revenues.

**Reports, Fines, and Net RV** - Net recreational vehicle receipts (Net RV) deposited into the Highway Distribution Account came to an end in 1988. This resulted in an annual reduction of over \$530,000 to the account. Report and fine collections rose an average of 29 percent between 1985 - 1987, from \$1,179,314 to \$1,523,091.

#### Local Jurisdiction Revenues

City, county and highway district government partially fund their own highway systems from their general funds and special assessments. During 1987 these funds amounted to over \$41 million. [Exhibit 51]

#### **Exhibit 51**

#### **LOCAL JURISDICTION FUNDS ALLOCATED FOR HIGHWAY PURPOSES 1987**

City	\$12,277,000
County	9,428,000
Highway District	<u>10,563,000</u>
	\$41,268,000

SOURCES: City, County and Highway District Finance Reports.

## Chapter 5

# FUNDING SHORTFALLS AND OPTIONS

As reported in Chapter 3, there is a very large backlog of highway needs that has accumulated over the years. Chapter 4 reports that road finances have not kept pace with inflation and growth in personal income. As a consequence, Idaho now is faced with a road finance dilemma. The magnitude of the revenue shortfalls is presented in this chapter. Also, a number of financial options are postulated as a means of providing additional funding. These options should be considered so that further increases in the backlog of needs can be avoided and some progress can be made in reducing the size of the backlog.

### Forecast Revenues

Forecasts of revenues were prepared for each of the three major sources of funding, i.e., federal aid, state user taxes, and non-user revenues dedicated to highways.

**Federal Aid** - At the time of these analyses, some uncertainty existed regarding the federal aid highway program after 1991, when the current Surface Transportation Assistance Act expires. Since the present administration had made strong indications that there will be no new federal taxes, it was assumed, for purposes of these analyses, that federal funds after 1991 would be consistent with recent trends. On this basis, forecasts for the years covered by the highway needs analysis (1989 - 1994) were prepared. The forecasts reflect existing arrangements whereby certain federal aid funds are made available for use by local jurisdictions as well as provisions of the Federal-aid Secondary Exchange Program (Buy Back Program) operated by the State Transportation Department. [Exhibit 52]

**State Highway User Revenues** - Forecasts were prepared of state and road user revenues which took into account trends in population, vehicle registrations, vehicle travel and fuel consumption rates. This was done for each state user impost.

### Exhibit 52 FORECAST OF FEDERAL-AID HIGHWAY REVENUES

<u>YEAR</u>	<u>STATE</u>	<u>COUNTY</u>	<u>HWY DIST</u>	<u>CITY</u>
		(\$ Thousands)		
1989	129,460 (a)	2,046	2,855	2,557
1990	60,700	2,016	2,819	2,534
1991	103,100 (a)	1,986	2,785	2,511
1992	60,700	1,957	2,751	2,489
1993	60,700	1,929	2,717	2,467
1994	<u>60,700</u>	<u>1,901</u>	<u>2,684</u>	<u>2,444</u>
TOTAL	475,360	11,835	16,611	15,002
(a) Includes Interstate Discretionary funds of \$58,185,000 and \$42,400,000, respectively.				

The forecasts take into account discontinuance of recreational vehicle funds in the Highway Distribution Account (HDA) after 1988.

During the 6-year period, HDA revenues are expected to grow by 17 percent. Sixty percent of the HDA revenues will derive from the taxes or motor fuels with 17 percent from vehicle registration fees and 16 percent from the weight-distance tax. [Exhibit 53]

The current formula for distributions of state road user revenues allocates 6 percent for law enforcement, 61 2/3 percent to the State Highway Account and 32 1/3 percent to local jurisdictions. In 1991, the split between state and local governments will change to 59 4/5 percent to the state and 34 1/5 percent to local governments. The local share initially is divided 30 percent to cities and 70 percent to counties and highway districts. However, in the case of those cities whose street responsibilities have been assumed by a

**Exhibit 53**  
**STATE HIGHWAY USER REVENUE FORECASTS**

<u>Year</u>	<u>Gasoline</u>	<u>Diesel</u>	<u>Gasohol</u>	<u>Vehicle</u> <u>Regist</u>	<u>Weight</u> <u>Dist Tax</u>	<u>96 Hr,</u> <u>Single Trip</u> <u>&amp; Caravan</u> <u>Permits</u>	<u>Misc Reg</u> <u>&amp; Plate</u> <u>Fees</u>	<u>Reports</u> <u>&amp; Fines</u>	<u>Operators</u> <u>Licenses</u>	<u>Total</u>
(\$ Thousands)										
1989	76,016	18,916	7,000	26,869	21,711	1,961	4,001	1,907	1,907	160,288
1990	76,088	19,132	7,700	27,784	23,618	1,851	4,689	2,122	2,020	165,004
1991	76,160	19,348	8,400	28,730	25,693	1,747	5,496	2,362	2,139	170,075
1992	76,246	19,568	9,100	29,708	27,950	1,649	6,441	2,629	2,265	175,557
1993	76,318	19,784	9,800	30,719	30,406	1,557	7,549	2,926	2,399	181,458
1994	<u>76,390</u>	<u>20,000</u>	<u>10,500</u>	<u>31,765</u>	<u>33,077</u>	<u>1,470</u>	<u>8,848</u>	<u>3,256</u>	<u>2,540</u>	<u>187,846</u>
TOTAL	457,218	116,748	52,500	175,575	162,455	10,235	37,024	15,202	13,270	1,040,228

NOTE: Details may not add to totals due to rounding.

highway district, HDA funds allocated to such cities are reassigned to the highway district. Effectually, cities with street responsibilities receive about 22.5 percent of the local government share of HDA funds. This "pass through" of funds is reflected in study values because the needs for highway districts include city street needs which are the

responsibility of the respective highway district. As a result of these arrangements, over the period 1989 through 1994, the \$1.04 billion in HDA funds will be distributed 6 percent for law enforcement, 60.1 percent to state highways, 11.3 percent to counties, 15.0 percent to highway districts and 7.6 percent to cities. [Exhibit 54]

**Exhibit 54**  
**FORECAST STATE HIGHWAY USER REVENUES BY JURISDICTIONAL LEVEL**

<u>YEAR</u>	<u>LAW</u> <u>ENFORCEMENT</u>	<u>STATE</u>	<u>COUNTY</u>	<u>HIGHWAY</u> <sup>(a)</sup> <u>DISTRICT</u>	<u>CITY</u> <sup>(a)</sup>
(\$ Thousands)					
1989	9,617	98,850	16,114	24,047	11,660
1990	9,900	98,672	17,959	25,775	12,697
1991	10,205	101,705	19,072	26,007	13,087
1992	10,533	104,983	20,254	26,277	13,509
1993	10,887	108,511	21,509	26,586	13,963
1994	<u>11,271</u>	<u>112,331</u>	<u>22,842</u>	<u>26,946</u>	<u>14,455</u>
TOTAL	62,413	625,052	117,750	155,638	79,371

(a) Reflects pass through of funds from cities to the Ada County and Sandpoint Highway Districts.

**Non-User Revenues** - Local jurisdictions apply property tax and general fund revenues to highways. Local jurisdictions also receive a portion of state sales tax revenues and some of these funds are used for highway purposes. County jurisdiction non-user revenues are forecast to increase by 10.9 percent between 1989 and 1994, while comparable highway funds for highway districts should grow by 31.3 percent and city funds by 12.7 percent. [Exhibit 55]

**Exhibit 55**  
**FORECAST OF NON-USER REVENUES**

<u>YEAR</u>	<u>PROPERTY TAX</u>	<u>GENERAL FUND</u>	<u>TOTAL LOCAL FUNDS</u> (\$ Thousands)	<u>SALES TAX</u>	<u>TOTAL NON-USER FUNDS</u>
<b><u>COUNTIES</u></b>					
1989	8,002	1,699	9,701	1,112	10,813
1990	8,230	1,622	9,852	1,169	11,021
1991	8,465	1,549	10,014	1,229	11,243
1992	8,707	1,479	10,186	1,292	11,478
1993	8,956	1,412	10,368	1,358	11,726
1994	<u>9,212</u>	<u>1,348</u>	<u>10,560</u>	<u>1,428</u>	<u>11,988</u>
TOTAL	51,572	9,109	60,681	7,588	68,269
<b><u>HIGHWAY DISTRICTS</u></b>					
1989	19,021	2,638	21,659	1,741	23,400
1990	20,353	2,495	22,848	1,794	24,642
1991	21,778	2,359	24,137	1,851	25,988
1992	23,303	2,231	25,534	1,910	27,444
1993	24,935	2,110	27,045	1,972	29,017
1994	<u>26,681</u>	<u>1,995</u>	<u>28,676</u>	<u>2,037</u>	<u>30,713</u>
TOTAL	136,071	13,828	149,899	11,305	161,204
<b><u>CITIES</u></b>					
1989	4,712	8,068	12,780	1,495	14,275
1990	4,882	8,160	13,042	1,571	14,613
1991	5,058	8,253	13,311	1,652	14,963
1992	5,240	8,347	13,587	1,736	15,323
1993	5,429	8,442	13,871	1,825	15,696
1994	<u>5,625</u>	<u>8,538</u>	<u>14,163</u>	<u>1,918</u>	<u>16,081</u>
TOTAL	30,946	49,808	80,754	10,197	90,951
<b>GRAND TOTAL</b>	<b>218,589</b>	<b>72,745</b>	<b>291,334</b>	<b>20,090</b>	<b>320,424</b>

Overall, non-user revenues are expected to increase by 21 percent over the six-year period compared to the increase in state highway user revenues of 17 percent.

**Total Funds by Jurisdictional Level -**

Funding for state highways is forecast to decline by 24 percent over the six-year study period due to discretionary Interstate funds available in 1989 (and 1991) but not forecast to be available in other years. Growth in county funds is forecast at 27 percent, highway district funds at 20 percent, and city funds at 16 percent. Of the total of \$1.82 billion in road funds, state highways will get 60.6 percent based on current distributions, while counties will receive 10.9 percent, highway districts 18.3 percent and cities 10.2 percent. [Exhibit 56]

**Exhibit 56  
TOTAL HIGHWAY FUNDING  
BY JURISDICTIONAL LEVEL**

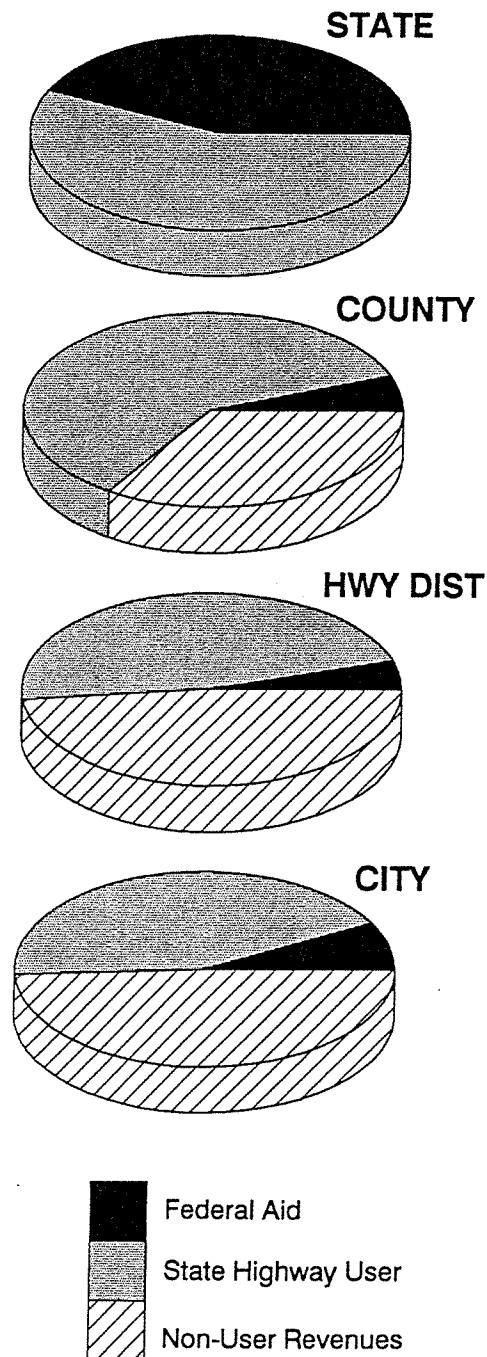
<u>YEAR</u>	<u>STATE</u>	<u>COUNTY</u>	<u>HWY DIST</u>	<u>CITY</u>
	(\$ Thousands)			
1989	228,310	28,973	50,302	28,492
1990	159,372	30,996	53,236	29,844
1991	204,805	32,301	54,780	30,561
1992	165,683	33,689	56,472	31,321
1993	169,211	35,164	58,320	32,126
1994	<u>173,031</u>	<u>36,731</u>	<u>60,343</u>	<u>32,980</u>
TOTAL	1,100,412	197,854	333,453	185,324

State highway funding will derive 43 percent from federal aid and 57 percent from state highway user revenues. County funding is forecast to be 6 percent from federal aid, 60 percent from state highway user revenues and 34 percent from non-user sources. Federal aid funds will account for 5 percent of all highway district revenues with 47 percent coming from state highway user revenues and 48 percent from non-user sources. Total city funds for streets will come 8 percent from federal aid, 43 percent from state highway user revenues and 49 percent from non-user sources. [Exhibit 57]

**Revenue Shortfalls**

The reason there is a large backlog of highway needs is because highway funding has been inadequate

**Exhibit 57  
SOURCES OF FUNDING  
BY JURISDICTIONAL LEVEL  
1989 - 1994**



in the past. Therefore, it is not surprising that, in the absence of major changes in highway funding, revenues forecast to be available fall well short of highway needs. Revenues from existing sources, amounting to \$1.82 billion between 1989 and 1994, cover only 25 percent of Most Urgent Needs. In fact, these revenues will finance only 41 percent of Structural Integrity Needs.

State highway funding for the six-year period, amounting to \$1.10 billion, will cover only 46 percent of Most Urgent Needs or 73 percent of Structural Integrity Needs. The revenue shortfalls are \$1.31 billion and \$0.42 billion for these two needs alternatives, respectively. [Exhibits 58 and 59]

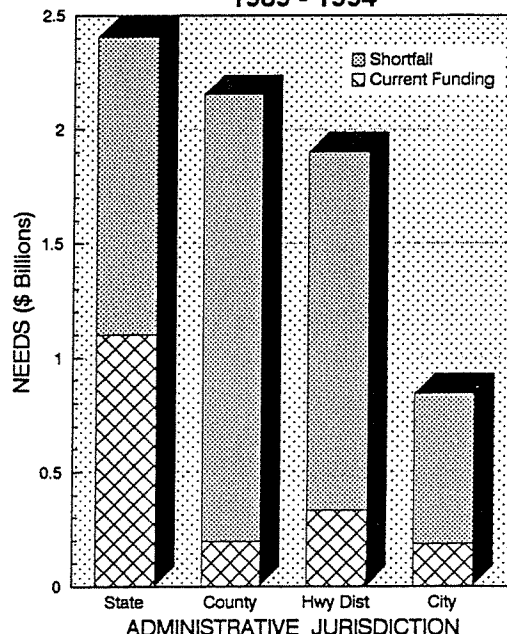
The largest revenue shortfalls occur on the county system. With revenues of \$198 million, only 9 percent of Most Urgent Needs can be financed, or 15 percent of Structural Integrity Needs. The revenue shortfalls are \$1.95 billion and \$1.11 billion for the two needs alternatives, respectively.

Highway districts will be able to finance 18 percent of Most Urgent Needs with the \$333 million which is forecast to be available. Some 32 percent of Structural Integrity Needs can be covered by these funds. The shortfalls in revenue are estimated to be \$1.57 billion and \$0.72 billion for the two needs alternatives, respectively.

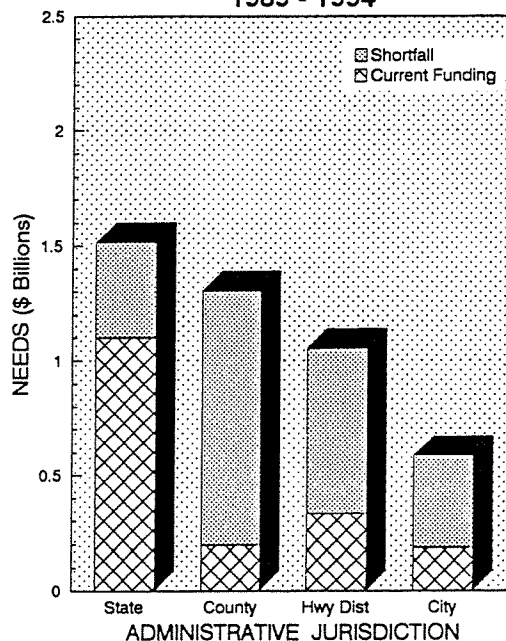
City funding for streets also will fall far short of street needs. With some \$185 million forecast to be available, only 22 percent of Most Urgent Needs or 32 percent of Structural Integrity Needs can be financed. The revenue shortfalls for the two needs alternatives is forecast to be \$655 million and \$399 million, respectively.

Under these conditions, the backlog of highway needs must inevitably grow during the analysis period. For instance, future Most Urgent Needs alone on the state system (i.e., ignoring backlog needs) amount to \$1.15 billion or slightly more than the \$1.10 billion in forecast revenues. For local jurisdictions, future Most Urgent Needs total \$2.13 billion, or far in excess of the \$0.72 billion in funding from current sources. [Exhibit 60]

**Exhibit 58**  
**MOST URGENT NEEDS**  
**VS. REVENUES**  
**1989 - 1994**



**Exhibit 59**  
**STRUCTURAL INTEGRITY NEEDS**  
**VS. REVENUES**  
**1989 - 1994**



**Exhibit 60**  
**NEEDS VS. REVENUES BY YEAR**

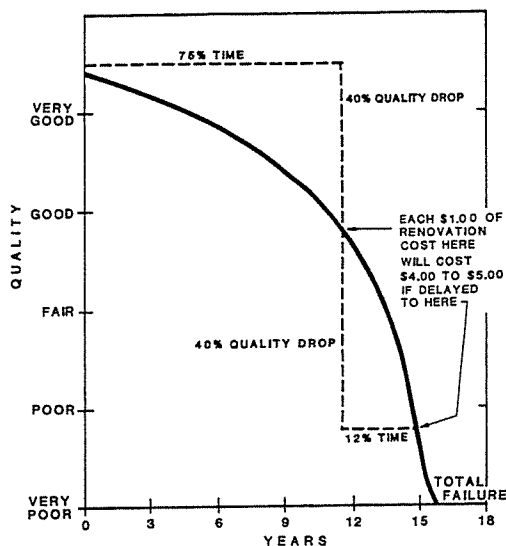
<u>JURISDICTION</u>	<u>YEARS</u>	<u>TOTAL NEEDS</u>	<u>REVENUES</u> <u>Funds Available</u> <u>Under Current</u> <u>Structure</u> (\$ Thousands)	<u>SHORTFALL</u> <u>Needs</u> <u>Minus</u> <u>Revenues</u>	<u>ACCRUING<sup>(a)</sup></u> <u>BACKLOG</u>
<b><u>MOST URGENT NEEDS</u></b>					
STATE	BACKLOG	1,255,066	0	1,255,066	1,255,066
	1989-1990	456,389	387,682	68,707	1,323,773
	1991-1992	357,053	370,488	(13,435)	1,310,338
	1993-1994	337,097	342,242	(5,145)	1,305,193
	TOTAL	2,405,605	1,100,412	1,305,193	
LOCAL	BACKLOG	2,756,689	0	2,756,689	2,756,689
	1989-1990	775,357	221,843	553,514	3,310,203
	1991-1992	626,822	239,124	387,698	3,697,901
	1993-1994	732,206	255,664	476,542	4,174,443
	TOTAL	4,891,074	716,631	4,174,443	
<b><u>STRUCTURAL INTEGRITY NEEDS</u></b>					
STATE	BACKLOG	629,862	0	629,862	629,862
	1989-1990	377,971	387,682	(9,711)	620,151
	1991-1992	266,102	370,488	(104,386)	515,765
	1993-1994	241,786	342,242	(100,456)	415,309
	TOTAL	1,515,721	1,100,412	415,309	
LOCAL	BACKLOG	1,061,813	0	1,061,813	1,061,813
	1989-1990	641,252	221,843	419,409	1,481,222
	1991-1992	603,837	239,124	364,713	1,845,935
	1993-1994	633,403	255,664	377,739	2,223,674
	TOTAL	2,940,305	716,631	2,223,674	

(a) Accruing backlog is understated since postponement of some needed works will increase ultimate cost of the improvement (e.g., a resurfacing project, if delayed, may result in the need to reconstruct the pavement, which is a much more costly project).



In actual fact, the above relationships significantly understate the effect that revenue shortfalls will have in increasing the backlog of needs existing at the beginning of 1989. When certain projects are postponed, the ultimate costs often are increased dramatically. For instance, deferral of a resurfacing project can result ultimately in the need for a reconstruction project, which is much more costly. [Exhibit 61]

**Exhibit 61  
COST CONSEQUENCE OF  
DEFERRED PROJECTS**



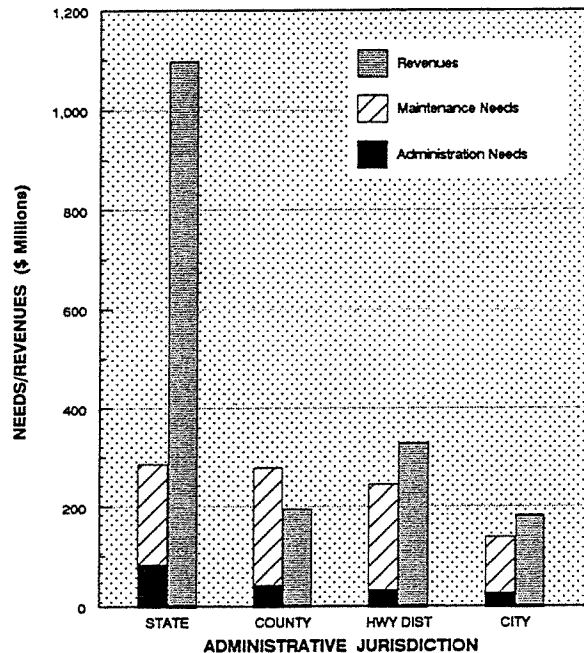
#### **Funding vs. Maintenance and Administration**

**Needs** - Budgeting decisions do not always fully reflect the logical priority which must be assigned to maintenance and administration. Without adequate personnel, a highway program can not be conducted properly. Similarly, if the highway system is not maintained properly, deterioration will accelerate over time. In many ways, deferred highway maintenance produces results very similar to those which accompany deferred vehicle maintenance, maintenance of machines and timely repairs of buildings. It is very likely that, at least in some instances, essential activities have been deferred either due to the inadequacy of road funding and/or the desire to undertake special construction projects. The large backlog of highway needs undoubtedly is due, in part, to such budgeting decisions.

A comparison of future funds with maintenance and administration needs for the 1989-1994 period highlights the dilemma with which Idaho is faced.

The State will be able to fully fund maintenance and administration and have \$809 million remaining to apply to Most Urgent Construction Needs of \$2.1 billion. [Exhibit 62]

**Exhibit 62  
MAINTENANCE AND ADMINISTRATION  
NEEDS VS. REVENUES  
Most Urgent Needs  
1989 - 1994**



On the other hand, county revenues of \$198 million will fund only 70 percent of the \$284 million in maintenance and administration needs. That is, counties will have insufficient funds to undertake any construction projects if maintenance and administration needs are given top priority. Construction projects to maintain the structural integrity needs of the county system are in serious jeopardy.

The outlook is not much better for highway districts. Revenues of \$333 million are adequate to cover \$248 million in maintenance and administration needs. However, this leaves only \$85 million for construction needs.

Cities will have revenues of \$185 million which is sufficient to fund the \$145 million in maintenance and administration needs. Nevertheless, this leaves only \$40 million for construction needs.

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### **Impact on System Performance**

Revenue shortfalls will have a profound impact on the performance of Idaho's highway systems in the future. An assessment of these impacts, reported below, indicates that, generally, the highway systems will be in worse condition at the end of 1994 than they were at the beginning of 1989.

The information presented herein is based on an overall assessment of a number of factors including congestion levels, safe speed, lane width, cross-section adequacy, pavement condition and surface type. These factors are translated into an overall composite conditions index for this presentation. Consequently, even though a roadway segment may be rated fair on an overall basis, there still may be a specific deficiency on the segment. That is, a segment may have a poor or very poor pavement condition but be adequate regarding all other factors, thereby resulting in a fair overall rating.

**State** - By concentrating funds available from current sources on the highest priority projects included in Most Urgent Needs, it will be possible to reduce the number of miles on the state system which are in the poor and very poor categories. Whereas there were 192 miles which rated poor or very poor overall in 1989, by 1994 this could be reduced to 104 miles. [Exhibit 63]

Nevertheless, the cost of backlog projects on the system system will increase over the six years as some of the more costly projects are postponed

**County** - Concentration of available funds on the worse county projects will not be adequate to keep the number of miles in the poor and very poor category from increasing between 1989 and 1994. Whereas there were 305 miles of roadways rated very poor on an overall basis in 1989, this could grow to 807 miles in 1994. Likewise, 3,147 miles of roadways rated as poor overall in 1989 could grow to 4,866 miles in 1994, depending on how available funds are used. The number of miles rated as good will decrease from 4,950 miles to 2,083 miles during the period. [Exhibit 64]

**Highway District** - Revenue shortfalls will have the same effect on highway districts as on

counties, i.e., the number of miles of roadways in poor and very poor condition will grow in the absence of additional funding. Whereas there were 79 miles of roadways rated as very poor in 1989, this category will grow to 296 miles in 1994. Similarly, the 1,665 miles of roadways in the poor category in 1989 will increase to 3,221 mile. Roadways rated as good will decrease from 5,195 miles in 1989 to 2,895 miles in 1994. [Exhibit 65]

**City** - Reduced system performance is also forecast for cities as a consequence of revenue shortfalls. Whereas there were 111 miles of city streets rated as very poor in 1989, this will increase to 259 miles in 1994. Also, the 601 miles of streets rated as poor in 1989 will grow to 773 miles in 1994. Conversely, there will be only 1,206 miles of city streets in good condition in 1994 compared to 1,778 miles in 1989. [Exhibit 66]

### **Supplemental Funding Options**

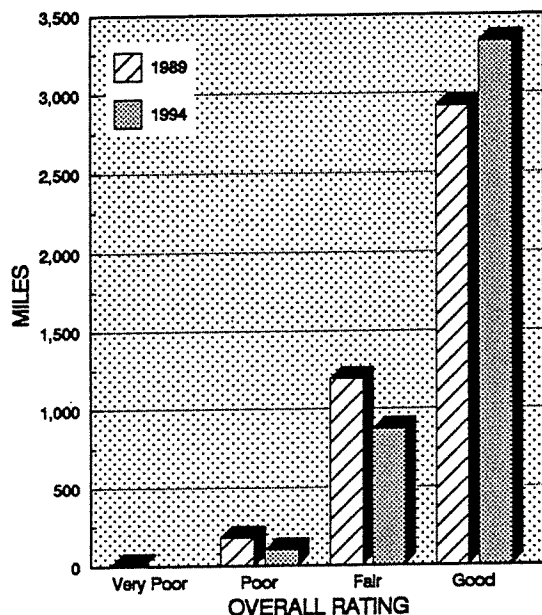
Study analyses clearly demonstrate that conditions on the highway system will continue to get worse unless significant additional revenues are provided to the four jurisdictional levels. It is clear that Idaho must make a hard choice to either allow the quality of its highway systems to decline, or to increase the funds applied to highways.

The study found that Idaho does not use all of the highway finance measures that other states use. Also, Idaho's highway user tax rates are lower than those in some other states. Further, the accumulation of backlog needs due to inadequate highway funding in prior years means that Idaho's tax rates now must be increased above rates in other states if the State is to catch-up on some highway needs.

A number of principal funding options were considered by the LHNAC. These include various increases from both highway user and non-user sources. [Exhibit 67]

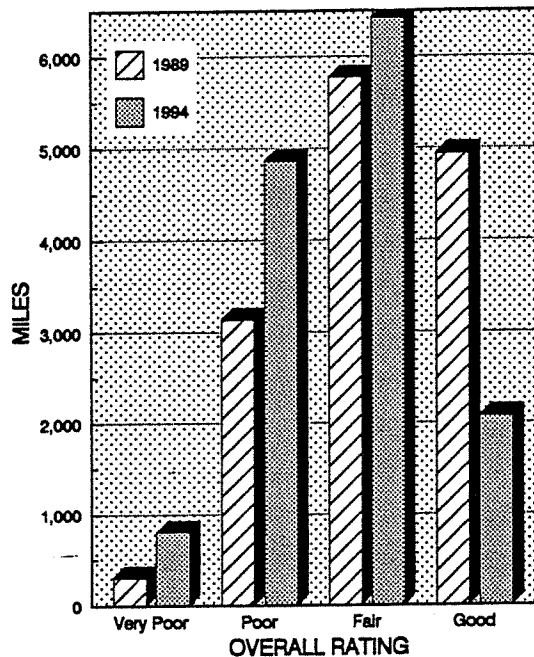
Given the magnitude of revenue shortfalls identified for each jurisdictional level, it is not practical that any single measure will be adequate. Instead, a package of finance measures are needed if further deterioration of the highway system is to be halted (or slowed).

**Exhibit 63**  
**CHANGE IN SYSTEM CONDITIONS**  
**State**

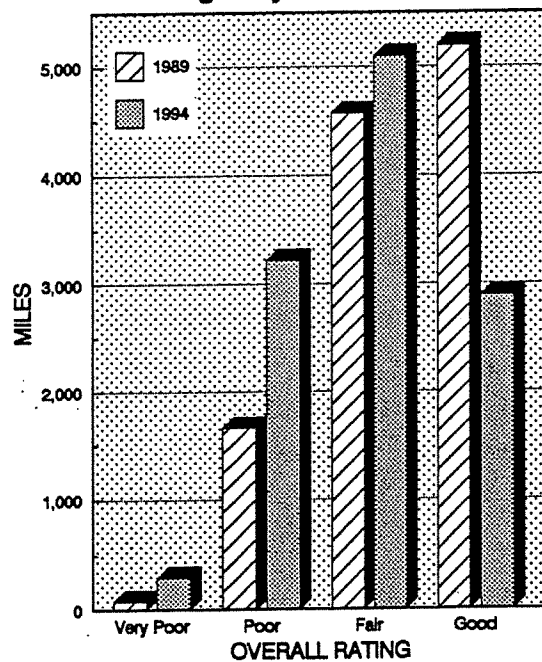


NOTE: Does not include Interstate highways.

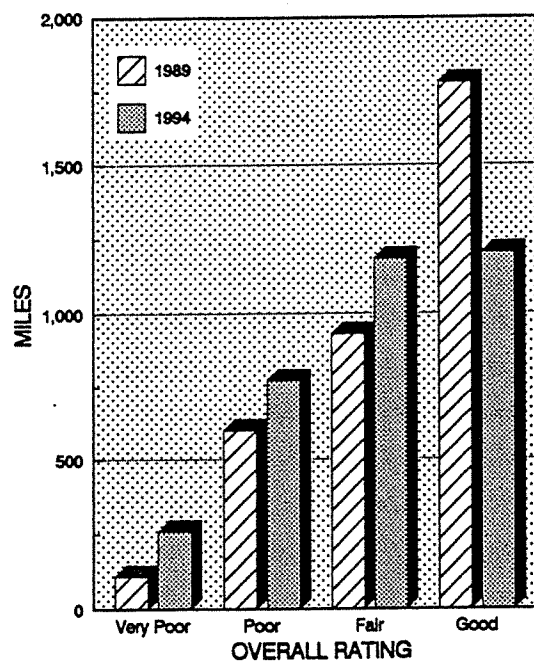
**Exhibit 64**  
**CHANGE IN SYSTEM CONDITIONS**  
**Counties**



**Exhibit 65**  
**CHANGE IN SYSTEM CONDITIONS**  
**Highway Districts**



**Exhibit 66**  
**CHANGE IN SYSTEM CONDITIONS**  
**Cities**



**Exhibit 67**  
**CANDIDATE HIGHWAY REVENUE MEASURES**  
**AND REVENUE POTENTIALS**

<b><u>REVENUE MEASURE</u></b>	<b>6-YEAR ADDITIONAL REVENUE (in \$ Millions)</b>
<b><u>Motor Fuel Taxes</u></b>	
1. Increase the fuel tax rate by 5 cents/gal.	178.1
2. Adopt an ad valorem gas tax (18% assuming 5%/year increase in price of fuel)	125.9
3. Abolish the 4 cent Gasohol tax exemption	15.0
4. Institute a sales tax on motor fuels (5% assuming 5%/year increase in price of fuel)	214.9
5. Extend authority for a local option motor fuel tax (5 cents/gal.)	178.1
6. Adopt an oil company franchise tax (5 cents/gal.)	178.1
<b><u>Registration Fees</u></b>	
7. Increase rates for basic vehicle registration fees (double current fees)	175.6
8. Increase other registration fees, trip permits, etc. (double current fees)	47.3
<b><u>Other User Taxes</u></b>	
9. Increase drivers license fees (double current fees)	13.3
10. Increase weight distance tax (double current fees)	162.5
11. Institute property taxes on motor vehicles (national average of \$94 for automobiles and \$423 for trucks)	443.2
<b><u>Non-User Revenue Measures</u></b>	
12. Dedicate a portion (5%) of the total state sales tax revenues for use on local jurisdiction highways	111.0
13. Dedicate the sales tax on motor vehicles and motor vehicle accessories to local jurisdiction highways	150.0
14. Add a 1/2 percent increment to the general sales tax for local jurisdiction highways	220.9
15. Institute a severance tax on non-fuel, mineral production (2%)	39.0
16. Increase local property taxes by 2 mills and apply to local jurisdiction highways	300.6
17. Institute a highway dedicated local option sales tax (1/2 percent)	220.9
18. Dedicate a portion of corporate income tax revenue (5%)	22.9
19. Encourage private participation in transportation projects	Unknown

A two-pronged approach is logical in view of existing highway finance structures and the relative cost responsibilities of highway users and non-user sources. Trying to finance the shortfall by concentrating upon only one of these two areas will not be as effective or equitable as increasing both highway user and non-user revenues.

Chapter 6 discusses the cost responsibilities of users and non-users. As noted therein, the highway user responsibility amounts to \$4.28 billion of the \$7.30 billion in Most Urgent Needs, or 59 percent. The forecasted \$1.56 billion in highway user revenues from existing sources falls short by \$2.72 billion. That is, only 36 percent of the highway user responsibility will be funded in the absence of increases in highway user revenues.

An even greater shortfall is forecast for the non-user share. The \$0.32 billion in non-user revenues will cover only 10.6 percent of the \$3.02 billion non-user responsibility for Most Urgent Needs.

The Federal Government currently is developing a National Transportation Policy which is expected to influence heavily the forthcoming 1991 Surface Transportation Assistance Act. Federal officials already are making clear that states and local governments *"... must look for new and creative funding mechanisms ... you can't plan on any new money from the federal government ... more public-private partnerships and more fully private initiatives will help...."* Further, there is much to indicate that future federal programs will place major emphasis on a *"highway system of national significance"* and that the non-federal share of transportation funding will have to increase. It is clear that Idaho can not look to

the Federal Government for the solution to its highway finance problems.

The magnitude of Idaho's highway needs, the shortfalls in both highway user and non-user revenues, the likely direction of new federal programs, and the major dependence of the State on highway transportation all forcibly indicate that strong initiatives are required if the State is to go forward rather than backward in its transportation program.

**Example Financial Packages** - It is not practical to consider additional revenue packages to totally fund either Most Urgent Needs or Structural Integrity Needs. For instance, it would require an increase of 78 cents per gallon to fund the user share of Most Urgent Needs or a 19 cents per gallon increase to fund the user share of Structural Integrity Needs.

Similarly, it would require either a 20-mill increase in property taxes or a 7 percent general sales tax to fund the non-user share of Most Urgent Needs. A 13-mill increase in property taxes or a 4.5 percent general sales tax would be required to fund the non-user share of Structural Integrity Needs.

What appears to be most practical is for substantial increases in funding to be applied at the present time followed by significant increases in the near future. In this way, Idaho can start to make progress in attacking the backlog of needs which, in effect, constitutes a debt from the past.

There are a large number of potential combinations of measures to increase both user and non-user revenues for roads. One example package is as follows:

**Example Package 1**

<u>6-YEAR REVENUE</u>	
<b><u>User Revenues</u></b>	
5-cents per gallon increase in fuel taxes	\$178.1 million
Abolish the 4-cents per gallon gasohol tax exemption	15.0 million
Increase the weight-distance tax by 30 percent	<u>48.8 million</u>
	<b>\$241.9 million</b>
<b><u>Non-User Revenues</u></b>	
Add a 1/2 percent increment to the general sales tax for highways	\$220.9 million
Increase local property taxes by 1 mill	<u>150.3 million</u>
	<b>\$371.2 million</b>

Most of the above measures place the burden for highway finance primarily at the state level. There is much to argue that a large part of the burden should be placed on local jurisdictions. For instance, 67 percent of Most Urgent Needs are on local jurisdiction highways (66 percent for Structural Integrity Needs). Presently, local jurisdictions are greatly limited in their ability to fund road programs. Therefore, a package of measures to provide greater authority for highway program funding makes sense. Also, regarding highway user revenues, there are sound arguments for including an inflation-responsive element in the

user tax structure. An example financial package which incorporates these features is as follows:

**Example Package 2**

<u>6-Year Revenue</u>	
<b><u>User Revenues</u></b>	
Institute a 5 percent sales tax on motor fuels	\$214.9 million
Abolish the 4-cents per gallon gasohol exemption	15.0 million
Institute property taxes on motor vehicles (to the national average of \$94 for automobiles and \$423 for trucks) with funds dedicated to highway programs	<u>443.2 million</u>
	<b>\$673.1 million</b>
<b><u>Non-User Revenues</u></b>	
Add a 1/2 percent increment to the general sales tax for highways	\$220.9 million
Increase property taxes by 2 mills	<u>300.6 million</u>
	<b>\$521.5 million</b>

Neither of the above example financial packages will be adequate to keep the backlog of highway needs from increasing during the 1989-1994 period. A package which is about adequate to keep the backlog from growing and which achieves an approximate balance between user and non-user cost responsibilities is as follows:

**Example Package 3****6-YEAR  
REVENUE****User Revenues**

Institute a 5 percent sales tax on fuels	\$214.9 million
Abolish the 4-cents per gallon gasohol exemption	15.0 million
Increase the weight-distance tax by 40 percent	65.0 million
Increase basic registration fees by 40 percent	70.2 million
Increase other registration fees, trip permits, etc., by 40 percent	<u>18.9 million</u>
	<b>\$384.0 million</b>

**Non-User Revenues**

Add a 1/2 percent increment to the general sales tax for highways	\$220.9 million
Increase local property taxes by 6 mills	<u>901.8 million</u>
	<b>\$1,122.7 million</b>

It is emphasized that none of these revenue packages will solve Idaho's highway finance dilemma. Instead, they constitute what can only be categorized as an initial step. Without a doubt, future revenue increases will be required because:

- The magnitude of the existing backlog is so very large;
- Inflation will continue to erode the purchasing power of highway dollars; and,
- Deferral of projects, in some cases, will result in much higher costs because more expensive works ultimately will be required.

一、二、三、四、五、六、七、八、九、十、十一、十二、十三、十四、十五、十六、十七、十八、十九、二十、二十一、二十二、二十三、二十四、二十五、二十六、二十七、二十八、二十九、三十、三十一、三十二、三十三、三十四、三十五、三十六、三十七、三十八、三十九、四十、四十一、四十二、四十三、四十四、四十五、四十六、四十七、四十八、四十九、五十、五十一、五十二、五十三、五十四、五十五、五十六、五十七、五十八、五十九、六十、六十一、六十二、六十三、六十四、六十五、六十六、六十七、六十八、六十九、七十、七十一、七十二、七十三、七十四、七十五、七十六、七十七、七十八、七十九、八十、八十一、八十二、八十三、八十四、八十五、八十六、八十七、八十八、八十九、九十、九十一、九十二、九十三、九十四、九十五、九十六、九十七、九十八、九十九、一百。



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## Chapter 6

# COST RESPONSIBILITIES AND REVENUE DISTRIBUTIONS

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In this Chapter, the equitable level of funding from highway user taxes and non-user/general public revenue sources is presented. Also, analyses are included regarding the equitable apportionment of highway user tax revenues between the State and local governments. The Chapter concludes by presenting alternatives to the current distribution formulae for distributions of state-collected funds to individual local governments.

### User/Non-User Cost Responsibilities

As noted in Chapter 4, highway revenues derive from both highway user and non-user sources. This division of responsibilities is a fundamental principle in highway finance across the nation. This principle recognizes that highway users benefit from the transportation function of highways. Accordingly, users pay for these benefits (and the costs which they impose on government) in the form of highway user taxes.

Likewise, non-users of the highway system benefit because highways provide public access to properties. Also, as documented in Chapter 2, the general public benefits from the very significant contribution highways make to Idaho's total economy. The benefits provided by some highway facilities, in particular land access roads, are more closely related to the basis for general taxation than to specific highway user taxes.

The distribution of user and non-user benefits differs significantly for the different types of facilities. Interstate highways and other arterial routes provide important mobility functions while non-user benefits are of secondary importance for these facilities. On the other hand, local access roads carry relatively light traffic and principally serve abutting properties. Because of light traffic volumes, these roads generate very little highway user revenues.

Assignments of cost responsibilities recognize that arterial highways are provided to serve major traffic flows, with access to properties being a subordinate function for these facilities. Accordingly, road users should be responsible for at least a major share of the costs for arterials, plus equitable shares of the costs for collector and land access facilities which have less prominent travel functions.

Cost responsibility determinations also recognize that land access roads and streets play a minor role in serving traffic flows. Instead, these facilities primarily provide a means of access to farms, houses, etc. Highway user tax earnings from travel on land access roads are very small and cover only a minor portion of the costs of such roads and streets. The major responsibility for such facilities equitably is assignable to non-user revenue sources such as property taxes or general sales taxes.

**Earnings-Credit Analysis** - An analysis was performed to determine the shares of total needs which should be financed by highway user and non-user revenue sources. This analysis utilized the Earnings-Credit Method which is the most universally accepted approach to user/non-user cost allocation. In reviewing the state-of-the-art in highway cost allocation, the Federal Government concluded in the State Highway Cost Allocation Guide that the "... earnings-credit was the method employed by all States that distinguished between user and non-user shares."

The "earnings-credit analysis" method derives its name from the fact that highways are "credited" with hypothetical "earnings" based on travel in much the same manner that tolls would be credited if they were the method of financing. The earnings-credit analysis actually involves two separate determinations of the division of cost responsibilities between the general public and the highway user.

The first of the two determinations, commonly known as the "top-drawer" solution, is an attempt to develop an equitable determination of those costs which highway users should pay for their use of highways. A hypothetical assumption is made that primary highway facilities provide benefits to the highway user exclusively. Therefore, highway users are allocated the total cost of such highways. It is further assumed that highway users receive identical benefits from their use of other highway systems and should contribute to the costs of these systems at the same rate per mile of travel as on the primary system. The residual costs, after deducting the highway user share from total highway needs, are allocated to the general public. Thus, highway users are assessed the same charge per mile of travel on all highway systems, with the general public assessed only the remaining costs of each system after deduction of the user share.

The second determination involved in the earnings-credit solution, known as the "bottom-drawer" solution, assumes that benefits derived from local access or land service roads are so distinctly related to non-user benefits that the general public should be responsible for the total cost of such facilities. It is also assumed that every mile of highway provides identical land access and indirect benefits to the general public, and that the non-user should be charged a comparable amount of these benefits. The rate at which the general public is assessed this responsibility is determined as the cost per mile of the access systems, a rate which is applied to the total mileage of all systems. The highway user is assigned the remaining costs, after deducting the general public share from total program costs.

While each of these determinations measures benefits received by the general public and the highway user, both suffer somewhat from their simplified assumptions. The "top-drawer" solution assigns all costs of primary highways to the highway user and fails to recognize that these facilities also benefit the general public. The "bottom-drawer" solution inappropriately assumes that all benefits derived from local access facilities are exclusively non-user benefits, although it is

apparent that some modest highway user benefits are received.

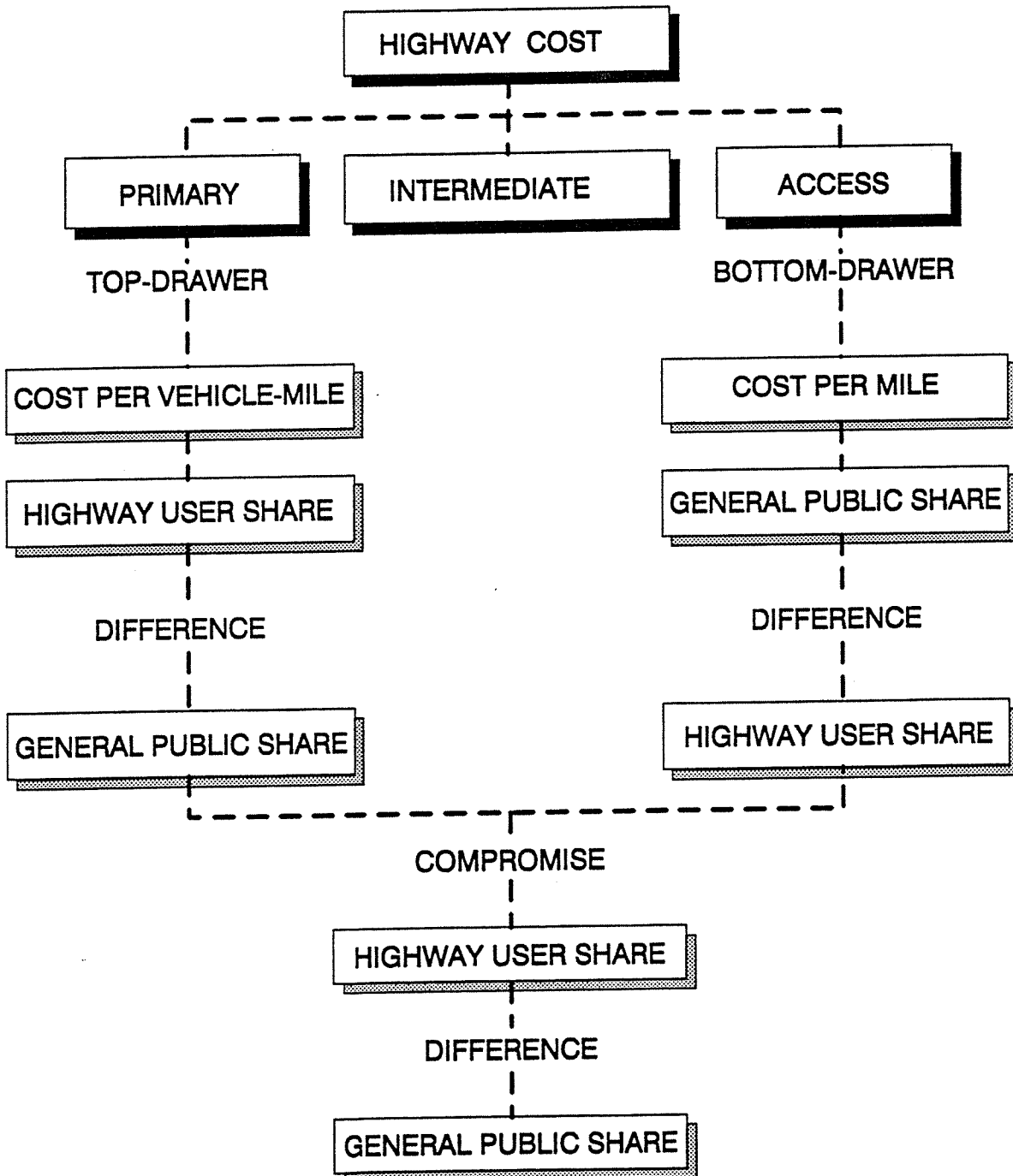
The "compromise" solution, achieved by averaging the results of the two determinations, serves to reconcile the differences between the two solutions. In this portion of the analysis, the user cost assignments per vehicle mile determined in the top-drawer and bottom-drawer solutions are averaged. The compromise solution recognizes that all facilities provide both user and nonuser benefits by "crediting" each system with road user "earnings" based on the compromise rates and the amount of travel on each system, residual costs being assigned to the general public. Accordingly, the earnings-credit analysis is a compromise between two separate determinations of highway user and general public cost responsibilities. [Exhibit 68]

**Basic Data** - The earnings-credit analysis requires that all highways, roads and streets be categorized according to use characteristics. In this analysis, functional classifications were used to separate principal traffic-carrying highways from roads that are basically land-access facilities. The total highway network of the State, counties, highway districts and cities was divided into two main categories, rural highways and urban streets, since there are substantial differences in traffic characteristics, services, and volumes, and system costs for the two categories.

For rural highways, the primary group included Interstate highways, other arterial routes, and the major collector system. The intermediate group was composed of the minor collector highway system. Local access roads were placed in the access classification. For urban streets, all arterials were placed in the primary category. The intermediate group included collectors and the access group was comprised of local streets.

The costs of each system were based on needs for the 6-year period 1989-1994. Most Urgent Needs for the rural systems average \$189 thousand per mile for the six years (\$31,500 annually) at a cost per vehicle mile of 16.4 cents. Most Urgent Needs for urban streets average \$214 thousand per mile for the

Exhibit 68  
**EARNINGS-CREDIT  
COST ALLOCATION CONCEPT**



six years (\$35,700 annually). The total urban cost average 13.4 cents per vehicle mile of travel. In spite of the higher cost per mile of urban facilities versus rural highways, the cost per vehicle mile on urban streets generally is lower than on rural roads due to higher traffic volumes.

An earnings-credit analysis also was performed for Structural Integrity Needs which represent a lower quality highway system. Structural Integrity Needs for rural systems average \$119 thousand per mile for the six year period (\$19,900 per year). Rural Structural Integrity Needs amount of 10.4 cents per vehicle mile of travel. Urban streets have Structural Integrity Needs of \$131 thousand per mile over the six year period (\$21,800 annually), and average 8.2 cents per vehicle mile.

**Results** - Application of the earnings-credit analysis for Most Urgent Needs resulted in a cost assessment per vehicle-mile of travel of 9.3 cents for rural highways and 5.4 cents for urban streets. Based on this compromise solution, user responsibilities amount to \$4.27 billion or 59 percent of all Most Urgent Needs. The non-user share totals \$3.02 billion, or 41 percent. [Exhibit 69]

Somewhat different relationships resulted from the earnings-credit analysis of Structural Integrity Needs. The highway user cost assignment for rural highways amounts to 5.3 cents per vehicle mile with the comparable value for urban streets being 1.8 cents per vehicle mile. These values are much lower than cost assignments based on Most Urgent

Exhibit 69  
**EARNINGS-CREDIT ANALYSIS COMPROMISE SOLUTION**  
**Most Urgent Needs**

<u>HIGHWAY SYSTEM</u>	<u>USER SHARE</u>			<u>NON-USER SHARE</u>	
	<u>PER VEHICLE MILE</u> (cents)	<u>AMOUNT</u> (\$ Million)	<u>PERCENT OF TOTAL</u>	<u>AMOUNT</u> (\$ Million)	<u>PERCENT OF TOTAL</u>
<b>RURAL</b>					
PRIMARY	9.335	2630	92%	242	8%
INTERMEDIATE	9.335	154	16%	820	84%
ACCESS	9.335	383	22%	1,342	78%
SUBTOTAL	9.335	3,167	57%	2,404	43%
<b>URBAN</b>					
PRIMARY	5.418	803	91%	75	9%
INTERMEDIATE	5.418	184	57%	137	43%
ACCESS	5.418	119	23%	406	77%
SUBTOTAL	5.418	1,106	64%	618	36%
<b>GRAND TOTAL</b>	<b>7.864</b>	<b>4,274</b>	<b>59%</b>	<b>3,023</b>	<b>41%</b>

NOTE: Details may not add to totals due to rounding.

Needs. The user cost assignment amounted to \$2.17 billion, or 49 percent of all Structural Integrity Needs. The non-user share totals \$2.29 billion, or 51 percent. [Exhibit 70]

### User Shares by Jurisdictional Level

It is possible to determine the most equitable split of user and non-user cost responsibilities between the various levels of government by using the compromise solution of the earnings-credit analysis for cost assessment per vehicle mile of travel and the annual vehicle miles of travel by

jurisdictional level. This is accomplished by calculating the user revenues which should be credited to each system during the five year study period. The user assessments per vehicle mile of travel as derived in the earnings-credit compromise solution are the values used in these calculations.

On the basis of these analyses, 64.3 of all highway user revenues are "earned" on the state system, based on Most Urgent Needs. A somewhat higher proportion is attributed to the state system in the case of Structural Integrity Needs. In this instance, 66.8 percent is attributable to the state system. [Exhibit 71]

### Exhibit 70 EARNINGS-CREDIT ANALYSIS COMPROMISE SOLUTION Structural Integrity Needs

<u>HIGHWAY SYSTEM</u>	<u>USER SHARE</u>			<u>NON-USER SHARE</u>	
	<u>PER VEHICLE MILE (cents)</u>	<u>AMOUNT (\$ Million)</u>	<u>PERCENT OF TOTAL</u>	<u>AMOUNT (\$ Million)</u>	<u>PERCENT OF TOTAL</u>
<b>RURAL</b>					
PRIMARY	5.281	1,488	82%	337	18%
INTERMEDIATE	5.281	87	27%	241	73%
ACCESS	5.281	217	16%	1,147	84%
SUBTOTAL	5.281	1,792	51%	1,725	49%
<b>URBAN</b>					
PRIMARY	1.845	273	86%	43	14%
INTERMEDIATE	1.845	63	37%	107	63%
ACCESS	1.845	41	9%	412	91%
SUBTOTAL	1.845	377	40%	562	60%
<b>GRAND TOTAL</b>	<b>3.990</b>	<b>2,169</b>	<b>49%</b>	<b>2,287</b>	<b>51%</b>

NOTE: Details may not add to totals due to rounding.

Exhibit 71  
**HIGHWAY USER COST RESPONSIBILITIES BY  
ADMINISTRATIVE SYSTEM**

<u>JURISDICTIONAL LEVEL</u>	<u>MOST URGENT NEEDS</u>		<u>STRUCTURAL INTEGRITY NEEDS</u>	
	<u>Amount</u> (\$ Millions)	<u>Percent</u>	<u>Amount</u> (\$ Millions)	<u>Percent</u>
State	\$2,749	64.3	\$1,449	66.8
Local Jurisdictions				
County/Highway District	1,413	33.1	676	31.2
City	112	2.6	43	2.0
Subtotal	<u>\$1,525</u>	<u>35.7</u>	<u>\$ 719</u>	<u>33.2</u>
GRAND TOTAL	\$4,274	100.0	\$2,168	100.0

**Funding Responsibilities Vs. Actual Funding**

As discussed in Chapter 5, highway user revenues derive from federal aid funds and user taxes collected by the State of Idaho. Non-user revenues derive from local jurisdiction property taxes and general fund appropriations as well as the portion of state general sales tax receipts used by local jurisdictions for highway programs. Over the six-year study period, user revenues will comprise 82.4 percent of all funds while non-user revenues account for only 17.6 percent of the total. [Exhibit 72]

**Most Urgent Needs** - Based on revenues from current highway user sources, highway user revenues of \$1.50 billion will fund only 35 percent of the user cost responsibility of \$4.28 billion for Most Urgent Needs. A shortfall of \$2.78 billion is forecast in the absence of increases in highway user revenues. The largest shortfalls in user revenues by jurisdictional level amounts to \$1.31 billion for Most Urgent Needs on the state system. [Exhibit 73]

For Most Urgent Needs, the non-user cost responsibility is \$3.02 billion, or 41 percent of total needs. Study forecasts indicate an even

Exhibit 72  
**HIGHWAY USER AND NON-USER FUNDING  
1989-1994**

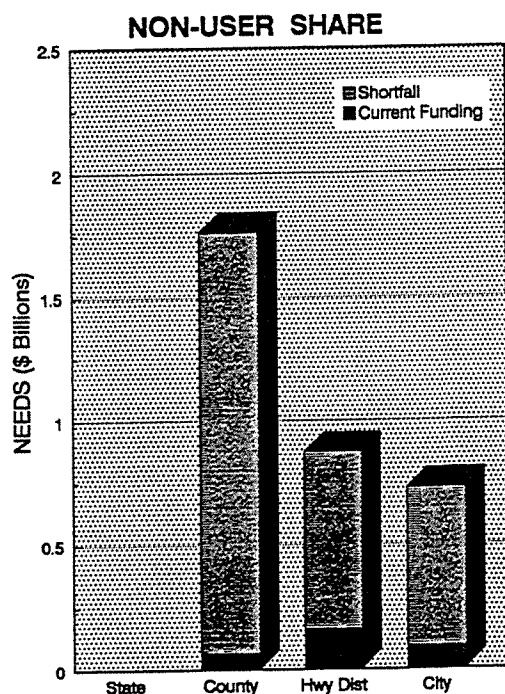
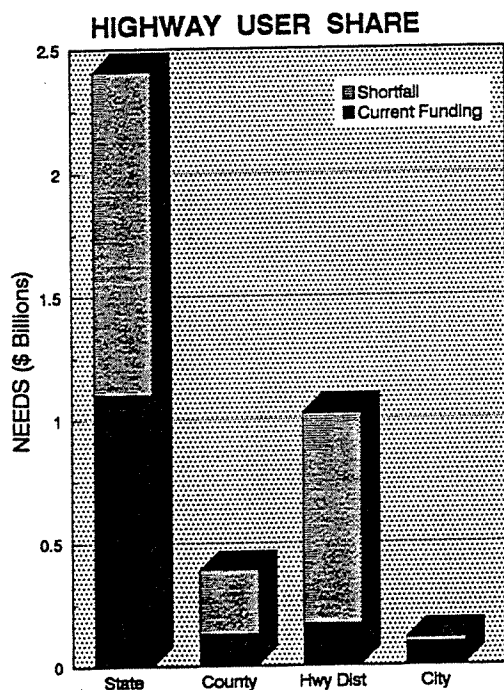
<u>JURIS- DICTION</u>	<u>HIGHWAY USER REVENUES</u>		<u>NON-USER</u>	<u>% OF</u>	
	<u>Federal</u>	<u>State</u>	<u>REVENUES</u>	<u>TOTAL</u>	<u>TOTAL</u>
	(\$ Millions)				
State	\$475.4	\$625.0	—	\$1,100.4	60.6
County	11.8	117.8	\$68.3	197.8	10.9
Hwy Dist	16.6	155.6	161.2	333.5	18.3
City	<u>15.0</u>	<u>79.4*</u>	<u>90.9</u>	<u>185.3</u>	<u>10.2</u>
TOTAL	\$518.9	\$977.8	\$320.4	\$1,817.0	100.0
% of Total	28.6	53.8	17.6	100.0	—

\* Accounts for pass through of HDA funds from cities to the Ada County and Sandpoint Highway Districts.

NOTE: Details may not add to totals due to rounding.

greater shortfall in non-user revenues than in user revenues. The forecast of \$0.32 billion in non-user revenues will cover only 11 percent of the non-user cost responsibility of \$3.02 billion. The shortfall for counties amounts to \$1.70 billion, i.e.,

**Exhibit 73**  
**FUNDING RESPONSIBILITY**  
**VS. ACTUAL FUNDING**  
**1989 - 1994**  
**Most Urgent Needs**



non-user revenues of \$68.3 million will cover only 4 percent of the non-user cost responsibility for county roads.

**Structural Integrity Needs** - Obviously, revenue shortfalls are less when compared to cost responsibilities for Structural Integrity Needs because many actual highway needs are not included.

Highway user revenues from current sources will cover 69 percent of their \$2.17 billion cost responsibility. The state system again has the largest shortfall, amounting to \$0.32 billion. [Exhibit 74]

Non-user revenues will meet 14 percent of the non-user cost responsibility for Structural Integrity Needs. As was the case for Most Urgent Needs, the largest shortfall occurs on the county system. County non-user revenues of \$68.3 million will fund only 6 percent of the non-user cost responsibility for this system, leaving a shortfall of \$1.02 billion.

The earnings-credit analysis for Structural Integrity Needs assigns non-users a small share, 6 percent, of needs on the state system. In the case of Most Urgent Needs, non-users were assigned no cost responsibility for the state system.

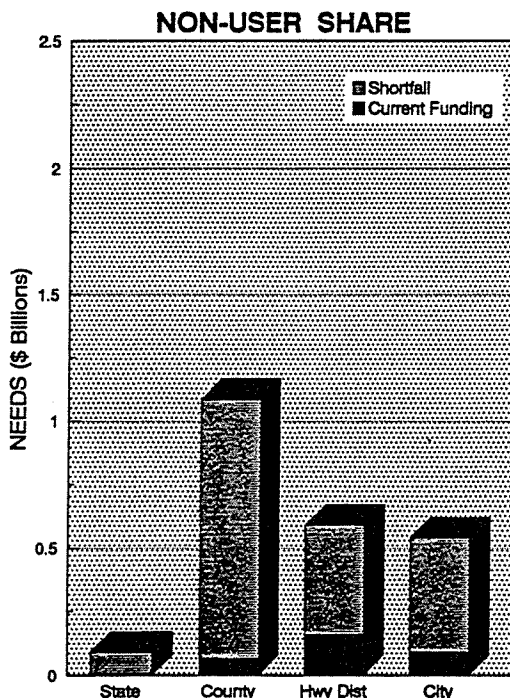
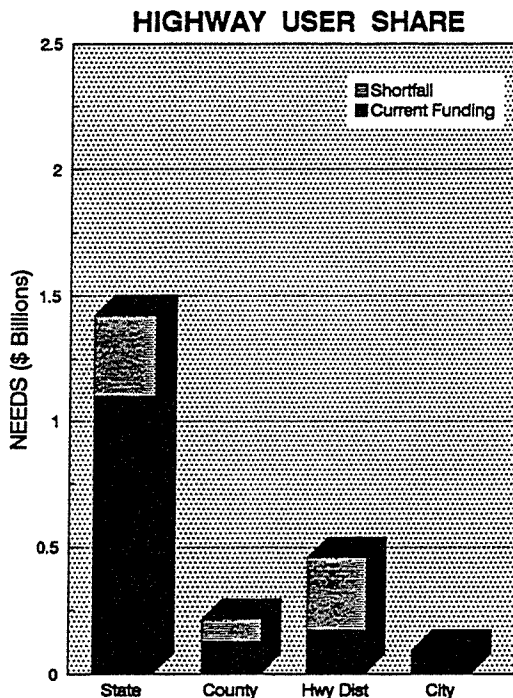
### Distribution of Highway User Revenues

State collected highway user tax revenues are deposited in the Highway Distribution Account (HDA) from which apportionments are made to law enforcement and to state and local jurisdiction highway programs. The proportions currently established for the state/local jurisdiction split will change beginning in 1991. [Exhibit 75]

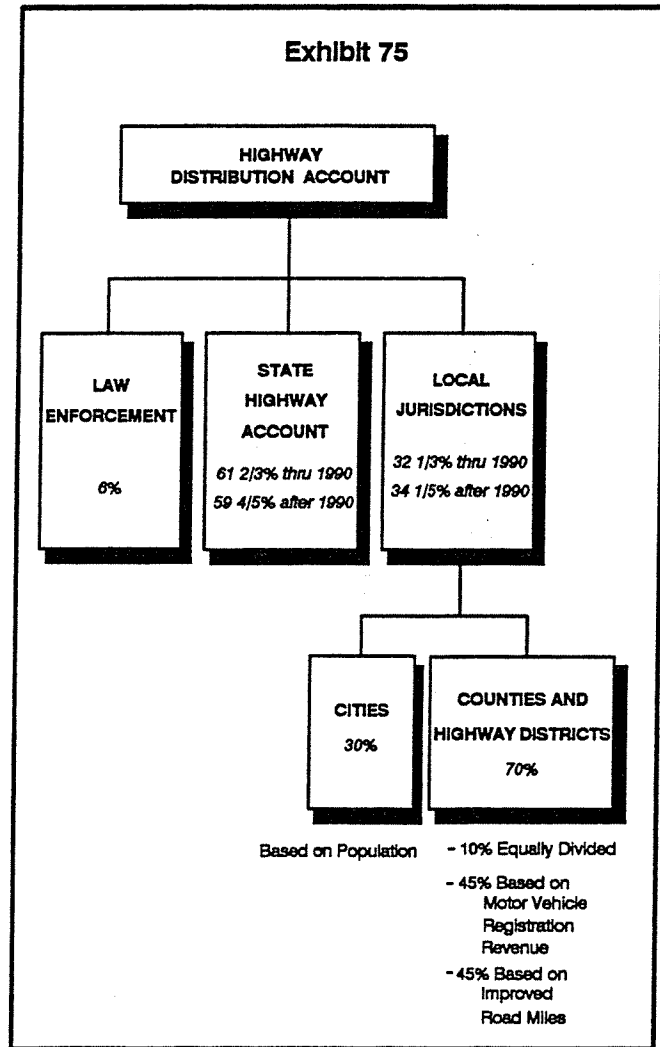
Investigations were made regarding four aspects of highway user revenue distribution, viz.:

1. Division of HDA funds between the state and local jurisdictions;
2. Division of HDA funds between local jurisdictions;

**Exhibit 74**  
**FUNDING RESPONSIBILITY**  
**VS. ACTUAL FUNDING**  
**1989-1994**  
**Structural Integrity Needs**



3. Formula for distributions to individual cities; and,
4. Formula for distributions to individual counties and highway districts.



Distributions of revenues can be founded on a number of bases. This could include considerations of the economic importance of each road system, the travel mobility importance, the relative shortfalls in revenues, the responsibility of each jurisdiction to handle its own highway needs, etc.



For these analyses, it was deemed appropriate to base highway user revenue distributions upon the cost responsibilities which users have for each system. These have been set out earlier in this Chapter.

### State vs. Local Jurisdiction Distributions

In the case of Most Urgent Needs, total user cost responsibilities are 64.3 percent to the state system and 35.7 percent to local jurisdictions. Comparable study findings in the case of Structural Integrity Needs are 66.8 percent for the state system and 33.2 percent to local jurisdictions. *[Exhibit 71, previously presented]*

Highway user revenues derive from both federal and state sources. Therefore, proper account must be taken of the amounts of federal aid which will be used at each jurisdictional level. Some 92 percent of federal aid funds during the 1989-1994 period are forecast to be spent on the state system. Therefore, the remaining user cost responsibilities by system are as follows:

	<u>STATE</u>	<u>LOCAL</u>
	(\$ Millions)	
<b>MOST URGENT NEEDS</b>		
Total User Cost Responsibility	\$2,749	\$1,525
Less Federal Aid	<u>(475)</u>	<u>(43)</u>
State User Cost Responsibility	\$2,274	\$1,482
- Percent of Total	60.5%	39.5%

### **STRUCTURAL INTEGRITY NEEDS**

Total User Cost Responsibility	\$1,449	\$719
Less Federal Aid	<u>(475)</u>	<u>(43)</u>
State User Cost Responsibility	\$974	\$676
- Percent of Total	59.0%	41.0%

Currently, 6 percent of HDA funds are allocated to Law Enforcement. If this arrangement continues, leaving only 94 percent of the HDA for highway programs, then the proportional distribution would be as follows if based upon the above user cost responsibilities:

	<u>MOST URGENT NEEDS</u>	<u>STRUCTURAL INTEGRITY NEEDS</u>
Law Enforcement	6.0%	6.0%
State Highway Account	56.9%	55.5%
Local Jurisdictions	37.1%	38.5%

As already mentioned, a number of other factors could be considered, other than user cost responsibilities. For example, 63 percent of all travel occurs on the state system and 80 percent of all truck travel. Also, the state system accounts for 65 percent of the total economic impact attributable to roads. Additionally, the state system has the greatest shortfall in user revenues. *[Exhibits 73 and 74, previously presented]* Likewise, the most important highways in the State are, to a large extent, on the state highway system.

It should be noted that highway user revenues from current sources are inadequate to meet user cost responsibilities on the state system and each of the three local jurisdictional levels. Consequently, there is cause to argue that the adopted HDA formula for state versus local jurisdictions should continue until such time as there is an acceptable match of user revenues with user cost responsibilities on the state system.

On the other hand, it probably would be more equitable to attempt balancing of HDA distributions with cost responsibilities as new revenues are applied to the state and local highway systems. That is, new highway user revenues could be allocated so that the distribution more closely matches user cost responsibilities. However, it makes little sense to change the adopted distribution formula as it applies to current highway user taxes if all this does is redistribute the shortfalls in highway user revenues. Instead, a hold harmless arrangement regarding existing sources seems more prudent.

If a hold harmless arrangement is adopted, the split for new user revenues, based on user cost responsibilities, may be determined as follows:

	<u>STATE</u> (\$ Millions)	<u>LOCAL</u>
<b>MOST URGENT NEEDS</b>		
State User Cost Responsibility	\$2,274	\$1,482
Less HDA-Current Sources	<u>(625)</u>	<u>(353)</u>
Additional User Revenues Required	\$1,649	\$1,129
- Percent of Total	59.4%	40.6%

#### STRUCTURAL INTEGRITY NEEDS

State User Cost Responsibility	\$974	\$676
Less HDA-Current Sources	<u>(625)</u>	<u>(353)</u>
Additional User Revenues Required	\$349	\$323
- Percent of Total	51.9%	48.1%

Clearly, a choice has to be made as to which level of highway system performance is to be aimed for in order to establish the actual percentage allocation to state and local highways.

Decisions about whether the 6 percent allocation to Law Enforcement is to continue and be applied to new user revenues as well as current sources also will influence the revenue split. For instance, if 6 percent is taken off-the-top of the new user revenues, distributions would be as follows:

	<u>MOST URGENT NEEDS</u>	<u>STRUCTURAL INTEGRITY NEEDS</u>
Law Enforcement	6.0%	6.0%
State Highway Account	55.8%	48.8%
Local Jurisdictions	38.2%	45.2%

#### City vs. County and Highway District Distributions

Of the HDA funds allocated to local governments, 30 percent goes to cities. The HDA apportionments for cities included within a highway district (i.e., cities within Ada County and Sandpoint Highway Districts) are then reallocated to the respective highway district since they administer

the street programs in such cities. Consequently, the effective share of HDA funds to those cities which have street responsibilities is 22.5 percent of the local government allocation. That is, about one-fourth of the total city share of HDA funds are passed through to the highway districts.

It is logical that HDA funds for city streets should be distributed on a consistent basis even if city street needs are administered, in some cases, by a highway district. In this way, the street administration arrangement does not give one group of cities an advantage over another group of cities as far as HDA funds are concerned.

Accordingly, for purposes of this analysis, all city streets were treated the same regardless of the administrative arrangement for their street programs. This differs from other study findings in this report where city street needs in Ada County and Sandpoint Highway Districts consistently have been treated as highway district needs.

These analyses are based on user cost responsibilities. The analyses parallel the approach used to determine the equitable distribution of HDA funds between state and local jurisdictions as discussed above. First, state user cost responsibilities were determined by deducting federal aid from the total user cost responsibility as follows:

	<u>COUNTY &amp; CITY</u>	<u>HWY DIST</u>
	(\$ Millions)	
MOST URGENT NEEDS		
Total User Cost Responsibility	\$332	\$1,193
Less Federal Aid	<u>(15)</u>	<u>(28)</u>
State User Cost Responsibility	\$317	\$1,165
- Percent of Total	21.4%	78.6%

**STRUCTURAL INTEGRITY NEEDS**

Total User Cost Responsibility	\$119	\$600
Less Federal Aid	<u>(15)</u>	<u>(28)</u>
State User Cost Responsibility	\$104	\$572
- Percent of Total	15.4%	84.6%

If a decision is taken to adjust the current division of funds between cities and counties/highway districts, there are valid arguments for adopting a hold harmless provision regarding current revenue sources. Assuming that a hold harmless arrangement is adopted, the split for new revenues could be based on the following:

	<u>CITY</u>	<u>COUNTY &amp; HWY DIST</u>
	(\$ Millions)	
MOST URGENT NEEDS		
State User Cost Responsibility	\$317	\$1,165
Less HDA-Current Sources	<u>(106)</u>	<u>(247)</u>
Additional User Revenues Required	\$211	\$918
- Percent of Total	18.7%	81.3%
STRUCTURAL INTEGRITY NEEDS		
State User Cost Responsibility	\$104	\$572
Less HDA-Current Sources	<u>(106)</u>	<u>(247)</u>
Additional User Revenues Required	(\$2)	\$325
- Percent of Total	(0.6)%	100.6%

### **HDA Distributions to Individual Cities**

For purposes of HDA distributions, funds are allocated to each city on the basis of population, regardless of whether the city's street needs are administered by the city government or by a highway district. This is logical for it treats each city's needs on a comparable basis regardless of the administrative structure used to run the street program. Where city street programs are administered by a highway district, the city's HDA funds are passed through to the highway district.

Analyses were performed to determine if there was a more equitable basis for distributing HDA funds to cities other than population. The parameters examined were those which had a logical correlation with needs since the objective is to distribute funds to those jurisdictions where they are needed, on a proportional basis. Also, the selected parameters were of a nature that measurements could be verified to a reasonable level of precision without a prohibitively expensive administrative process. The parameters examined were:

- Population
- Improved Road Miles
- Paved Road Miles
- Improved Lane Miles
- Paved Lane Miles

It was determined that population does correlate fairly closely with street needs in cities. Nevertheless, some improvement in statistical correlation could be achieved if any of the mileage parameters were used instead of population. Improved lane miles was deemed to have a very logical association with needs and achieves high statistical correlation between fund distributions and street needs.

### **HDA Distributions to Individual Counties and Highway Districts**

Distributions of HDA funds to counties and highway districts are as follows:

- 10% equally divided;
- 45% based upon motor vehicle registration revenue; and,
- 45% based upon improved road mileage.

Analyses were conducted to determine how well the existing formula matches revenues with needs compared to alternative formulas and parameters. The parameters examined consisted of:

- Improved Road Miles
- Paved Road Miles
- Motor Vehicle Registration Revenues
- Land Area

The analysis examined each parameter individually plus various combinations of parameters with varying weights assigned to the particular parameters.

The analyses found that the existing distribution formula correlates well with county road needs but not very well with highway district needs.

Overall, improved road miles alone provides a better correlation for counties and highway districts combined than does the existing formula.

The best two variable equation would be:

3% (motor vehicle registration revenues) +  
97% (improved road miles).

The best three variable equation would be:

4% (motor vehicle registration revenue) +  
10% (improved road miles) +  
86% (land area).

As with other HDA distribution aspects, a hold harmless provision would be an equitable way to handle the transition to a new formula.

### **Distribution of Non-User Revenues**

A major contributing reason for the large backlog of highway needs in Idaho is that non-user

revenues have receive little emphasis. Instead, highway programs have been funded in large part by highway user revenues.

If Idaho is to make progress in satisfying the needs of its highway systems, considerably more emphasis must be placed on non-user revenues in the future. Non-user financing is justified on the basis of the economic impacts which highways generate and the land access functions served by many facilities.

Some of the potential non-user revenue sources which warrant consideration to reduce the shortfall in non-user financing (see Chapter 5) logically could involve state administration, such as a state-wide general sales tax imposed for highway purposes. If collected by the State, decisions will be required as to how these funds should be allocated to achieve an equitable relationship between apportioned funds and highway needs.

Assignments of cost responsibilities recognize that the land access functions of arterial highways are subordinate to their travel-service functions. A large portion of the state highway system consists of arterials with most of the remainder being major collectors. For Most Urgent Needs, cost responsibility assignments indicate that none of the state

system should be financed from non-user revenue sources, despite the fact that there are obvious non-user benefits associated with state highways.

The cost responsibility analyses also indicate that between 27 and 30 percent of non-user revenues should be applied to city streets (including city streets within the Ada County and Sandpoint Highway Districts). The remaining 70 to 73 percent should be applied to county and highway district highway programs.

The formulas used for distributing highway user revenues to individual cities and to individual counties and highway districts are equally applicable for distribution of state-administered non-user revenues. These formulas are intended to match funds with needs as equitably as possible.

Apportionments of non-user revenues for the cities within the Ada County and Sandpoint Highway Districts logically should be handled in the same way as user revenues are apportioned. That is, these cities would participate in the city revenue distributions with the apportioned funds being passed through to the respective highway district. The revenue split between cities and counties/highway districts, as discussed above, reflects this arrangement.



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## Chapter 7 FEDERAL ISSUES

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Legislation creating the Local Highway Needs Assessment Council (LHNAC) charged it with the responsibility to examine special provisions regarding the impact of Federal Government operations on Idaho's highways. In response to this assignment, four specific issues were investigated, viz.:

- Payments-in-Lieu of Taxes (PILT)
- Federal Vehicle Exemptions
- Access to Federally-Owned Lands
- Impacts of Federal Standards

### **Federal Payments-in-Lieu of Taxes (PILT)**

In October of 1976, Congress passed Public Law 94-55 (Payment-in-Lieu of Taxes Act). The Act provided for certain payments to be made to local governments by the Secretary of the Interior based upon the amount of certain public lands within the boundaries of such locality. These payments are designed to supplement other federal land receipt sharing payments which local governments may be receiving. Payments received under the Act may be used by local governments for any governmental purpose. The Act was repealed in September 1986 and recodified at Chapter 69, 31 U.S.C.

Following passage of the Act, a number of states questioned which units of local government should receive payments. On July 30, 1983, the PILT Act (31 U.S.C.) was amended. The amendment refined the definition "unit of local government" and added a section authorizing State governments to enact legislation to reallocate PILT payments in whole or in part to other smaller units of general purpose government.

"Unit of general government" means a unit of that type of government which, within its state, is

the principal provider of governmental services affecting the use of entitlement lands. Those services of government include (but are not limited to) maintenance of land records, police protection, taxation, land use planning, search and rescue, and road construction. Ordinarily, a unit of general government will be a county. The term "unit of general government" excludes single purpose or special units of government such as school districts, water districts, etc. In the State of Idaho, counties are the recipient of PILT funds.

The Act authorizes payments to units of local government, based on the number of acres of "entitlement lands" within the county. "Entitlement lands" consist of lands in the National Forest system, National Park system, lands administered by the Bureau of Land Management, lands dedicated to the use of federal water resource development projects, dredge disposal areas under jurisdiction of the Army Corps of Engineers, National Wildlife Reserve areas withdrawn from public domain, inactive and semi-active Army installations and certain lands donated to the United States Government by state and local governments.

The amount of payment for any fiscal year to a unit of local government shall be equal to the greater of the following amounts:

- (1) Seventy-five cents for each acre of "entitlement land" within the unit of government, reduced by the amount of certain federal land payments that were received by the unit of government in the preceding fiscal year.<sup>6</sup> The unit of government cannot receive funds in excess of the population limitation determined in Section 2, Subsection B of the Act;

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<sup>6</sup> Only the amount of federal land payments actually received by units of government in prior years is deducted. If a unit of government receives a federal land payment, but is required by State law to pass the payment onto other political single purpose governments such as a highway district or school districts, such redistributed payments are not considered to have been received and, therefore they are not deducted from the in-lieu payment.

- (2) Ten cents for each acre of "entitlement land" within the unit of government. Under this arrangement, no deductions are made for federal land payments received by the unit of government in the preceding fiscal year.

The State of Idaho received \$7,320,888 in fiscal year 1985; \$7,419,386 in fiscal year 1986; \$7,828,410 in fiscal year 1987; and \$7,921,429 in fiscal year 1988. Distributions to counties for fiscal year 1988 ranged from a high of \$591,559 to Elmore County and \$568,832 to Cassia County to lows of \$5,606 to Benewah County and \$5,652 to Lewis County. [Exhibit 76]

Thirteen counties were contacted to find out whether PILT fund receipts were placed into special accounts for budgeting or whether they were placed in the current expense fund and budgeted with the rest of the current expense receipts. Five counties responded back and all stated that the funds were placed in the General Fund and mixed with other receipts. Therefore, they lose their identity and it is impossible to track the disposition of PILT funds or to determine the extent to which they are used for highway programs.

### **Federal Vehicle Exemptions**

By law, federal motor vehicles are exempted from paying user fees to state and local governments. However, many federal vehicles are operated on local jurisdiction highways in the normal conduct of business. Questions were raised concerning the equity and revenue impact of these exemptions. Therefore, a survey was conducted to identify the federal agencies that are responsible for the majority of federal vehicle miles traveled on local highways and to identify the amount of revenue that would be generated if those vehicles were subject to the same taxes as other vehicles.

In order to obtain federal vehicle usage in the State of Idaho, questionnaires were sent to major federal agencies, i.e., United States Forest Service (USFS), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), and General Services Administration (GSA). The following information was requested from each agency:

1. Agency offices and installations by type and location;
2. Staff size;
3. Mission/purpose;
4. Number of vehicles by type and model year;
5. Approximate miles driven annually for each vehicle and the estimated percentage of miles driven off federal lands on state and local jurisdiction highways;
6. Fuel purchasing and dispensing policies.

The General Services Administration's (GSA) primary mission is to provide motor vehicle and related services to 22 executive agencies of the Federal Government having offices in the State of Idaho. GSA has two fleet management centers serving Idaho -- one in Boise and the other in Spokane, Washington. GSA employs 11 full-time employees. Fuel procurement for their vehicles' operation in the State is by credit card using approved commercial service stations.

The United States Forest Service (USFS) has a primary mission of managing the national resources in 12 national forests in the State. It carries out this mission through 12 headquarter and 50 ranger districts. These headquarter and ranger districts employ approximately 1,875 full-time personnel with almost an equal amount of temporary employees during the summer months. Fuel procurement is by credit card using approved commercial service stations. USFS dispensing stations are maintained at remote ranger districts, and fuel is purchased in bulk from approved commercial sources.

The Bureau of Land Management (BLM) has a primary mission for the balanced management of public lands and resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

The BLM carries out its mission through its headquarters office in Boise and 10 district and resource area offices. The BLM employs 437 full-time personnel in the State. Full-time



**Exhibit 76**  
**PAYMENTS-IN-LIEU OF TAX TO LOCAL UNITS OF GOVERNMENT**  
**1985 - 1988**

<u>LOCAL UNIT OF GOVERNMENT</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>	<u>FY 88</u>
Ada County	\$ 142,409	\$ 141,742	\$ 147,418	\$ 148,972
Adams County	53,747	88,162	68,675	75,088
Bannock County	155,611	155,546	160,912	161,187
Bear Lake County	166,143	166,593	176,004	177,538
Benewah County	14,361	5,265	10,518	5,606
Bingham County	225,810	237,562	243,617	247,071
Blaine County	348,776	368,874	378,141	382,637
Boise County	87,514	86,552	88,440	89,001
Bonner County	62,320	43,319	44,654	45,269
Bonneville County	355,584	364,737	403,039	412,168
Boundary County	44,962	44,398	46,794	47,117
Butte County	141,321	142,207	153,416	156,997
Camas County	36,950	37,312	38,540	38,850
Canyon County	13,710	14,232	15,325	15,476
Caribou County	117,226	130,468	177,975	223,234
Cassia County	518,340	539,776	562,808	568,832
Clark County	39,232	37,744	38,986	39,300
Clearwater County	82,318	81,365	147,566	84,585
Custer County	242,775	270,833	279,747	282,000
Elmore County	569,967	565,776	586,755	591,559
Franklin County	83,249	84,067	88,490	91,543
Fremont County	302,491	274,170	294,610	314,939
Gem County	86,525	88,134	87,890	93,221
Gooding County	189,191	187,177	193,768	195,261
Idaho County	436,995	432,180	446,405	450,000
Jefferson County	132,887	134,782	140,215	141,813
Jerome County	64,297	63,601	75,327	75,844
Kootenai County	173,058	171,349	177,073	178,415
Latah County	74,728	73,901	76,214	76,830
Lemhi County	257,678	254,809	263,215	265,302
Lewis County	5,489	5,428	5,607	5,652
Lincoln County	174,093	177,412	183,251	184,727
Madison County	36,613	35,288	38,019	40,929
Minidoka County	128,542	119,416	130,181	131,232
Nez Perce County	14,789	14,621	16,248	15,501
Oneida County	136,116	159,039	162,245	164,530
Owyhee County	318,521	328,457	339,267	342,000
Payette County	39,638	43,541	46,563	46,785
Power County	202,132	204,664	214,648	216,977
Shoshone County	118,681	117,369	121,224	122,290
Teton County	56,282	52,272	57,142	60,710
Twin Falls County	457,372	451,633	468,887	478,871
Valley County	199,233	197,038	203,295	204,839
Washington County	213,212	226,575	229,296	230,731
<b>TOTAL</b>	<b>\$7,320,888</b>	<b>\$7,419,386</b>	<b>\$7,828,410</b>	<b>\$7,921,429</b>

SOURCE: *Payment-In-Lieu of Taxes Fiscal Year 1986, 1987, 1988*, published by the United States Department of the Interior, Bureau of Land Management, Division of Finance.

employment is augmented by a varying amount of temporary help during summer months. All fuel purchases are made using credit cards at authorized commercial service stations.

The Bureau of Indian Affairs (BIA) operates through four Indian agencies in the State. Only the Fort Hall Agency owns and operates its own fleet of vehicles. Statewide, full-time employment for the four agencies is 170 employees. All fuel is purchased on contract and delivered to the agency for dispensing.

The government agencies that responded to the questionnaire operate a substantial vehicle fleet in the State of Idaho. Some 2,340 vehicles drove a total of 22,993,119 miles in Idaho, of which 15,857,903 miles were off federal lands. [Exhibit 77]

Utilizing the data supplied, equivalent revenues were estimated as if federal vehicles were subject to the same taxes as other vehicles operating in the State. Fuel taxes were estimated using the mileage figures supplied and fuel consumption rates published in the U.S. Department of Transportation's "Selected Highway Statistics and Charts, 1987." These estimates were made on the basis of total miles traveled in the State and on those miles traveled off federal lands. Vehicle registration fees were estimated using the Fee Schedule published in Title 49, Chapter 4 of the Idaho Code.

The following is a tabulation of the estimated user taxes and fees that would have been generated

from federal vehicles traveling on local highways if they were subject to the same fees as other vehicles:

Motor Fuels Tax	\$182,348.67
Registration Fees	94,659.82
<b>TOTAL</b>	<b>\$277,008.49</b>

Total revenues would be \$277,008.49 which would increase the Highway Distribution Account by about 0.2 percent. The distribution (based on existing revenue formulas) would be as follows:

<u>AGENCY</u>	<u>DISTRIBUTION</u>
Law Enforcement	\$ 16,620.51
State	170,831.13
Cities	26,867.05
Counties and Highway Districts	62,689.79

#### Access to Federally-Owned Lands

In the State of Idaho, a federal government agency (i.e., Forest Service, Bureau of Land Management, Indian agencies, etc.) controls 63.8 percent of the land area. These federal lands are used for a variety of activities that include logging, mineral extraction, grazing and recreation. Local jurisdiction highways are often used to provide access to these federally administered

### Exhibit 77 ESTIMATED ANNUAL FEDERAL VEHICLE OPERATION IN IDAHO

<u>FEDERAL AGENCY</u>	<u>NUMBER OF VEHICLES OPERATED IN IDAHO</u>	<u>TOTAL VEHICLE MILES TRAVELED IN IDAHO</u>	<u>TOTAL VEHICLE MILES TRAVELED OFF FEDERAL LANDS</u>
GSA	972	11,633,432	9,074,077
USFS	1,291	10,830,487	6,396,486
BLM	46	397,200	337,625
BIA	31	132,000	49,715
<b>TOTAL</b>	<b>2,340</b>	<b>22,993,119</b>	<b>15,857,903</b>

lands. Additionally, where lands abut both federal and private lands, maintenance responsibilities fall on the local jurisdiction. In some instances, where a private owner may live within a national forest boundary, the road serving the national forest and the private owner is maintained entirely by the local jurisdiction. Authors of the LHNAC Legislation required determination of the extent to which these situations exist and the perceptions of local governments as to the burden it places on their highway programs.

A questionnaire was developed to identify highway mileage leading up to and adjoining federal lands, primary and secondary uses of these roadways, ownership of the right-of-way, and whether the local government agency was receiving state or federal funds to maintain the highways. Out of 96 local governments which could potentially have roads serving federal lands, a total of 39 responded to the questionnaire (a 40 percent response rate). These 39 agencies identified 286 separate roads serving federal lands, corresponding to 1,620.1 miles. They also identified an additional 1,588.7 miles of roads through private lands which serve as a continuation of the roads abutting federal lands. Using the simplifying assumption that the 39 responses accurately represented the universe of local government agencies with federal land access roads, one would expect there to be some 700 federal land access roads throughout the State, constituting approximately 4,000 miles or 14 percent of all local government highways.

The primary use listed for these roads by the respondents was access to private lands (36

percent). Twenty-seven percent of the jurisdictions listed grazing as the primary use, and recreation was responsible for 20 percent. Primary use for logging and mining operations was estimated at 17 percent of these roads.

Local jurisdictions were asked the secondary uses of the access roads. Access to private lands and recreational areas were the dominant responses given. [Exhibit 78]

#### Exhibit 78 SECONDARY USE FOR ROADS ACCESSING FEDERAL LANDS

<u>SECONDARY USE</u>	<u>NUMBER OF RESPONSES</u>
Access to Private Lands	153
Recreation	130
Grazing	34
Logging	41
Mining	15
Other Uses	24

Another concern of the LHNAC was federal use of roads providing access to or abutting federal lands. In other words, what percentage of vehicles using those roads do so because of a use attributed to the federal land? The percentage of the local jurisdiction roads was determined on the basis of the percentage frequency of vehicles using the road which are associated with federal land activities. [Exhibit 79]

#### Exhibit 79 PROPORTION OF FEDERAL LAND USE TRAFFIC ON ACCESS ROADS

<u>FEDERAL LAND USE TRAFFIC AS A PERCENT OF TOTAL</u>	<u>NUMBER OF ROADS</u>	<u>PERCENTAGE OF ROADS</u>	<u>CUMULATIVE PERCENTAGE</u>
0-10	83	37	37
10-20	42	19	56
20-30	21	9	65
30-40	22	10	75
40-50	22	10	85
50-60	20	9	94
>60	14	6	100

The percentage of the roads actually reported to be used by each vehicle type was also determined. [Exhibit 80]

**Exhibit 80  
UTILIZATION OF  
FEDERAL LAND ACCESS ROADS  
BY VEHICLE TYPE**

<b>VEHICLE TYPE</b>	<b>PERCENT OF ROADS USED BY DIFFERENT TYPES</b>
Cars/Pickups/Vans	100
Dump Trucks/Tandem Dumps	66
Cars/Pickups with Trailers	63
Motor Homes	47
Logging Trucks	35
Other (i.e., Ranch, Farm Vehicles)	28

Since larger vehicles present special maintenance problems, the LHNAC was interested in determining the percentage of roads having weight restrictions. Of those responding, 24 percent stated they had weight restrictions of some form on these roads. Many of them attributed the restriction only to the spring thaw period. Two-thirds of the respondents stated seasonal usage changes were the reason for weight restrictions, listing weather conditions as being the primary reason for those changes (53 percent of the roadways). [Exhibit 81]

**Exhibit 81  
WEIGHT RESTRICTIONS  
DUE TO SEASONAL CHANGES**

<b>REASON FOR SEASONAL CHANGES</b>	<b>PERCENTAGE OF ROADS LISTED</b>
Weather Conditions	53
Change in Recreational Activity	33
Curtailment of Grazing, Farming, Mining	8
Curtailment of Logging Operations	5

Right-of-way ownership was another question asked of the local highway agencies. Some of the questions related to ownership were: 1) Are local governments maintaining roads owned by a federal

agency?; 2) Are these local governments receiving Idaho Highway Distribution Account revenues for those roads?; and 3) Are the local governments receiving special funds from a federal agency for maintenance of the roads through or abutting federal lands?

The respondents stated that 29 percent of the access roads were under federal ownership (i.e., USFS, BLM, BIA, Bureau of Reclamation, etc.). Sixty-seven percent were in county ownership, and two percent under highway district ownership. Of those roads listed, 92 percent were receiving Idaho Highway Distribution Account revenues, and 10 percent were receiving other maintenance funds from a federal agency. The primary reason given for roads not receiving Highway Distribution Account funds was the fact that they were not meeting roadway standards.

**Conclusions** - Survey results indicated that six percent of the total local jurisdiction mileage was adjacent to or surrounded by federal lands. If the assumption was made that those not responding to the questionnaire followed the pattern of those that did, this percentage would rise to 14 percent of the total mileage. The primary usage most often listed for these roads was access to private lands, followed closely by access for grazing and recreational purposes. Eighty-seven percent of the access roads serving federal lands had less than 50 percent of the vehicles traveling on them associated with federal land uses. Almost half of the roadways had less than a 20 percent utilization by vehicles oriented to federal land activities. From these data, it can be concluded that even though these roads abut or traverse federal lands, the primary purpose of vehicles traveling these roads is for other than a federal land-related use.

Twenty-nine percent of the roads listed are on rights-of-way owned by the Federal Government. In the majority of instances, the Federal Government gives the local jurisdiction an easement for that road; and the Idaho Transportation Department allows credit for mileage to be used toward Highway Distribution Account funds.

Certain local jurisdictions were polled to determine whether the provision of access to federal lands posed a special burden on the jurisdiction. The majority responded that it did place an additional burden, but only on certain roads. Roads accessing timber sale areas required extra

maintenance because of use by logging trucks, but the maintenance burden lessens after the area has been logged. Other agencies indicated that providing access to ski areas provides a continuing burden on the roads leading to them. Finally, it was noted that livestock leaseholders create a nuisance problem by erecting gates on roads leading into BLM desert areas. Those jurisdictions reporting that logging created a burden also revealed that the revenues received from the Forest Reserve Fund were insufficient to off-set costs necessary to maintain the road for logging purposes.

The net result is that questionnaire findings suggest that federal land access roads are not a significant problem, except in a minority (17 percent) of instances where heavy vehicles associated with logging and mineral operations on federal lands cause maintenance problems in excess of monies contributed for their upkeep by federal agencies.

### **Impacts of Federal Standards**

A survey was conducted of local jurisdictions to determine what effect federal aid design standards had on local government participation in federal programs (i.e., Urban D, secondary highways, hazard elimination, etc.). To help identify federal standards believed to be excessive, as well as the costs associated with compliance of these standards, questionnaires were mailed to 298 local jurisdictions.

Questionnaires were returned by 115 local jurisdictions (38 percent). Over half of the respondents had participated in federal aid projects in the past. Fifty-nine percent of the respondents had not constructed federally funded projects for the past seven years. During the same time frame, 22 percent had constructed 1 such project, 10 percent had constructed 2 projects, and 9 percent had constructed more than 2 projects.

The reasons for non-participation in federal aid highway programs were compiled from questionnaire responses. [Exhibit 82]

Eighty-seven percent of the respondent jurisdictions indicated they would participate in federally funded projects if federal standards were less stringent. Furthermore, two-thirds of the 87 percent responding (58 percent) said that federal

standards were in excess of those currently in use at local levels. Fifty-three percent stated their decisions to accept or reject federal aid financing was directly affected by federal bridge and roadway design standards.

### **Exhibit 82 REASONS FOR NON-PARTICIPATION IN FEDERAL AID HIGHWAY PROGRAMS**

<b><u>JUSTIFICATION</u></b>	<b><u>JURISDICTIONS RESPONDING</u></b>
Excessive Paperwork	35
Time Restrictions	19
Standard Specifications of Materials	21
Designs Required	29
Availability of Funds	44
Environmental Process	19
Other Reasons	36

Jurisdictions which indicated that federal standards affected their decision to use federal aid financing were then asked to respond to which standards or procedures were deemed excessive. Roadway width standards and the environmental process were the most frequently cited factors. [Exhibit 83]

### **Exhibit 83 STANDARDS OR PROCEDURES DEEMED EXCESSIVE**

<b><u>FEDERAL STANDARD OR PROCESS</u></b>	<b><u>PERCENT OF JURISDICTIONS RESPONDING</u></b>
Environmental Process	61
Roadway Width Standards	68
Bridge Standards	43
Safety Standards	40
Other Requirements	14

If over the past seven years local governments had been non-participants in federal aid programs, they were asked to indicate how construction of local roads is financed. Over half the respondents who had not utilized federal funding also indicated that there had been no construction of roadway or bridge projects in the past seven years. The remainder of the respondents had built one or more projects in the same period using local financing.

The LHNAC was also interested in finding out the extent of participation in the State's Secondary Buy-Back Program. This program allows eligible, local jurisdictions to exchange federal aid entitlements with the Idaho Transportation Department for State Highway Account funds at a value of \$61.67 for every \$100.00. These buy-back dollars have no special requirements other than they have to be spent in the same manner as other highway user revenues. Forty-six percent of the respondents acknowledged participation in this program, and 70 percent of this buy-back group reported sharing in the program because federal aid standards and processes were too stringent.

Local jurisdictions were polled as to what changes in federal standards and practices would make the system more workable for their jurisdictions. The most frequent response was "give more flexibility to local governments." [Exhibit 84]

#### Exhibit 84 MAJOR RECOMMENDATIONS

<u>RECOMMENDATIONS</u>	<u>NUMBER OF JURISDICTIONS</u>
Reduce Maximum Design Requirements	13
Make More Federal Money Available	18
Timely Notification of Standards/Practice Changes	10
Provide Shorter Approval Times for the Process	8
Reduce Paperwork and Red Tape	13
Give More Flexibility to Local Governments	51

Other suggestions made in the survey included: reduction of Davis-Bacon Act requirements, better coordination between agencies, reduction of roadway/bridge design standards, block grant allowances, and

provisions for funding of overlays rather than reconstruction (i.e., permitting use of monies for maintenance activities).

The LHNAC was also interested in determining the financial impact resulting from participation in a federal aid project. Research of recent unit costs in both non-federal aid and federal aid projects revealed no definite cost differential pattern on a per unit basis -- with some federal aid unit costs being lower on some projects and higher on others. Unit costs appear to be a function of material quantity, project location, and general contractors' mark-ups on subcontractors' bids.

The greater question, that of how do federal standards affect the total cost of a particular project, could only be answered based on comparison of total costs for both types of projects.

General contractors in the State of Idaho received questionnaires requesting information on cost differentials between constructing a project with ITD-administered federal aid and locally funded projects. A number of general contractors and one subcontractor responded with the estimate that use of federal aid funds increased costs by approximately 16 percent over comparable non-federal aid projects. This does not include the impact of federal requirements on project scope and design.

**Conclusions** - The majority of local jurisdictions feel that Federal Highway Administration (FHWA) and American Association of State Highway Officials (AASHTO) standards and practices are too stringent and cite this as one of the primary reasons for non-participation in federal aid projects. Cost was another major factor mentioned. Available estimates indicate that the total impact of federal requirements on project costs is 33 percent above non-federal-aid projects. This includes the impact on project scope, design and construction activities.

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## Chapter 8 LOCAL JURISDICTION ORGANIZATIONAL FEATURES

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There is a significant diversity in the size and staff qualifications of county, highway district and city road and street departments in Idaho. As part of the Local Jurisdiction Highway Needs Assessment Study, a descriptive analysis was prepared regarding various organizational features. This Chapter summarizes the results of this analysis.

Road and street responsibilities reported in this Chapter are based on 1988 data. Population data used in these analyses are for 1986.

### Questionnaire Distribution and Response

Information used in this analysis was derived in large part from responses to a questionnaire developed for these purposes. The following tabulation indicates the responses that were received.

<u>Jurisdictional Level</u>	<u>Questionnaires Distributed</u>	<u>Responses</u>	<u>Percent</u>
Counties	33	9	27.3
Highway Districts	64 <sup>7</sup>	18	28.1
Cities	181	33	18.2
TOTAL	278	60	21.6

The 21.6 percent response rate is considered to be very good for a survey of this type. Nevertheless, it should be noted that questionnaire responses do not constitute a statistically valid sample of local governments. Instead, responses reflect circumstances and opinions of those local

governments which elected to respond and do not necessarily reflect the circumstances and opinions of all local governments.

### Diversities in Road Responsibilities

There are 44 counties in Idaho, but only 33 have highway responsibilities. In 1988, there were 64 Highway Districts<sup>8</sup> whose sole purpose is to administer highway programs within the district boundaries. As of January 1990, there were 199 incorporated cities. According to records maintained by the Idaho Transportation Department, 181 cities had responsibilities for city streets in 1988.

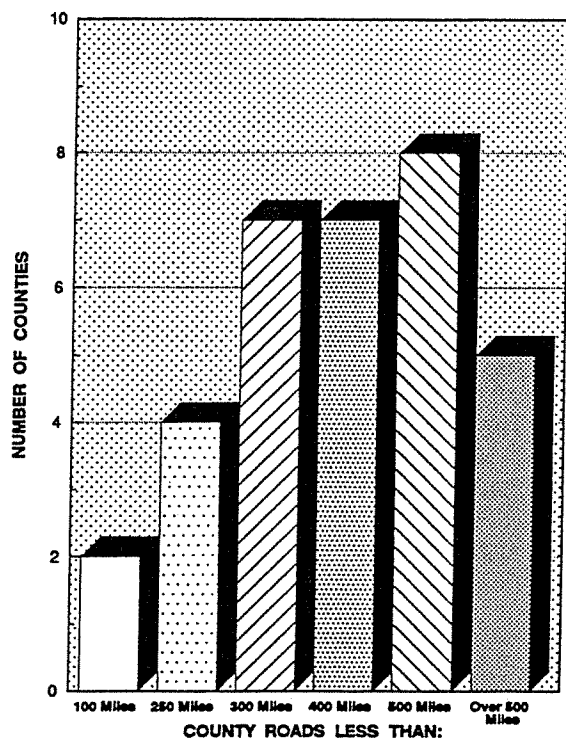
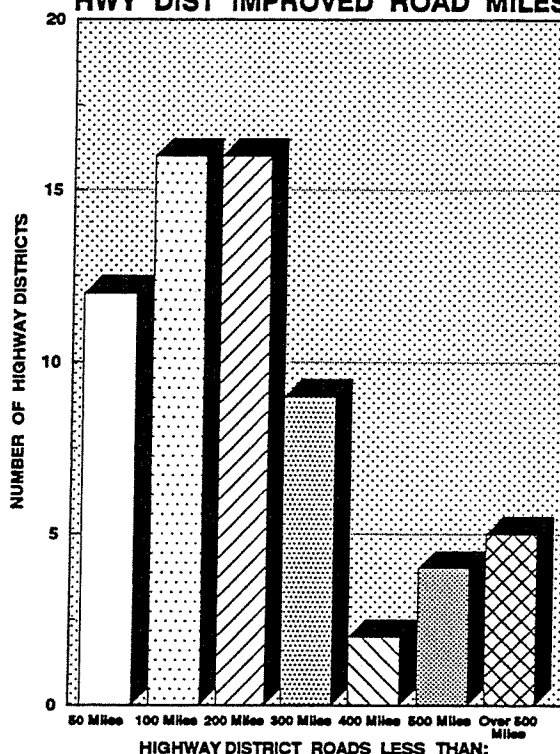
The Ada County and Sandpoint Highway Districts represent unique circumstances. Ada County Highway District is a consolidated countywide district with responsibilities for all roads and streets within the county, including facilities within the incorporated cities of Boise, Garden City, Meridian, Kuna and Eagle. Sandpoint Independent Highway District encompasses only the incorporated area of Sandpoint. It is responsible for those streets within the City which otherwise would be the responsibility of the city government.

**Counties** - An indicator of the diversity in responsibilities is the number of improved road miles for which each county has jurisdiction. Two counties are responsible for less than 100 miles, i.e., Gooding (22.33 miles) and Cassia (78.64 miles). On the other hand, five counties are responsible for more than 500 miles, with Bingham County having the most miles (1,123.28) followed by Bonneville (799.07). [Exhibit 85]

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<sup>7</sup> As of January 1, 1989, the Lapwai Valley Highway District was discontinued, reducing the number of Highway Districts to 63.

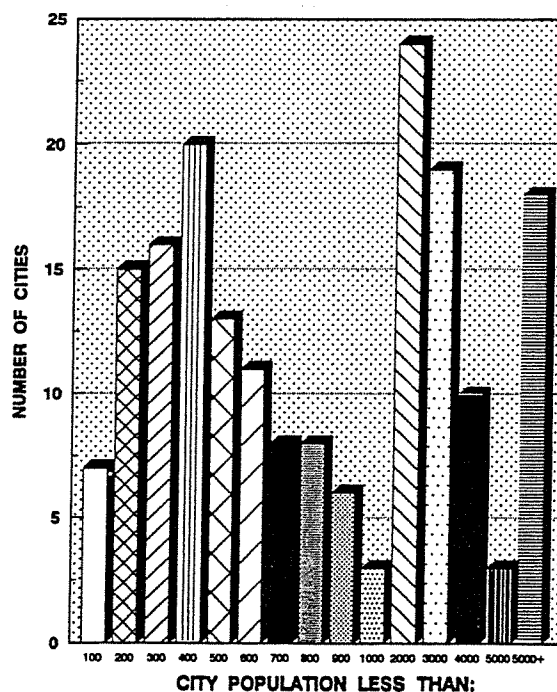
<sup>8</sup> Ibid.

Exhibit 85  
COUNTY IMPROVED ROAD MILESExhibit 86  
HWY DIST IMPROVED ROAD MILES

**Highway Districts** - A total of 12 highway districts are responsible for less than 50 miles of roads. On the other hand, five highway districts are responsible for more than 500 miles of roads, topped by Ada County Highway District with 1,346.10 miles (including mileage within incorporated cities which are part of the highway district). Twin Falls Highway District is responsible for 651.27 miles. [Exhibit 86]

**Cities** - The distribution of 1986 population within cities which have street responsibilities provides one indication of the diversities which exist. Seven cities with street responsibilities have less than 100 inhabitants each. Eighteen cities exceed 5,000 population, the largest being Pocatello (44,420) and Idaho Falls (42,830). [Exhibit 87]

Boise, Idaho's largest city with a 1986 population of 108,390, does not have road responsibilities since the city is encompassed by the Ada County Highway District.

Exhibit 87  
CITY POPULATION - 1986



There also is a wide diversity in the extent of the street system for which cities are responsible. Some 16 cities are responsible for less than 2 miles of streets. At the other extreme, five cities are responsible for over 100 miles each. Pocatello is responsible for the most miles (160.02) followed by Idaho Falls (147.10). [Exhibit 88]

Placerville averages only 8.4 persons per mile while Swan Valley has 13.2 persons per mile. Conversely, East Hope has 697.1 persons per mile and Chubbuck has 582.1. [Exhibit 89]

### **Diversities in Size of Staff**

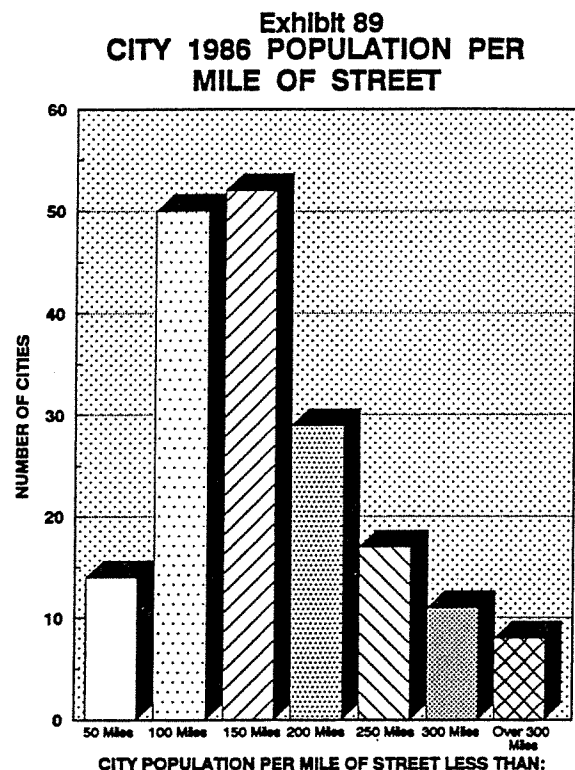
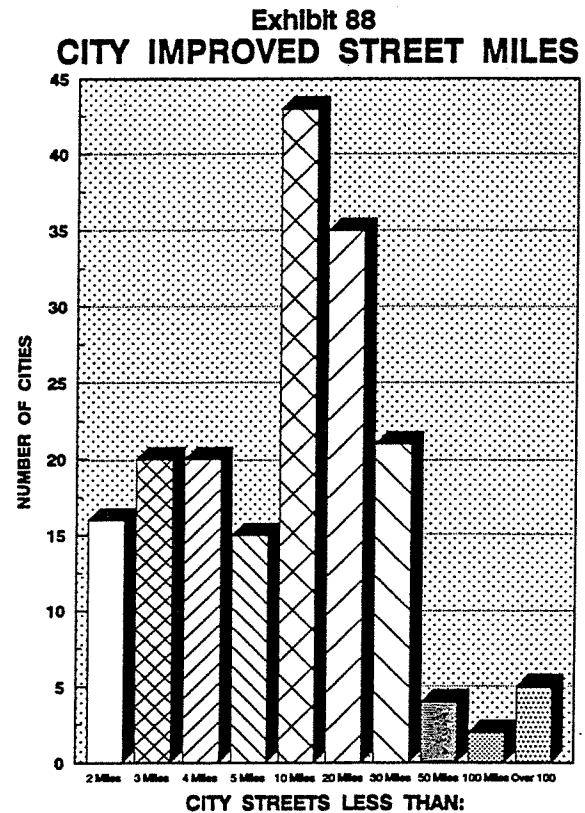
Local jurisdictions were asked to provide information about the number of full-time and part-time employees involved in road responsibilities. Also, the number of hours worked per week on road and street matters was requested so that the equivalent full-time staff could be determined. For cities, it was found that part-time employees average 6.2 hours per week. Corresponding values for counties and highway districts were 14.6 and 10.4. These values were used to convert part-time employees to equivalent full-time employees based on a standard 40-hour work week.

**Senior Staff** - Included in the senior staff category are elected officials, administrators, directors, supervisors, engineering support, legal support, work supervisors and foremen.

The lowest number of senior staff of the nine counties that responded was 2.3 equivalent full-time persons in Lemhi County. The highest reported values were 6.7 senior staff in Bannock County and a similar number in Nez Perce County.

Kamiah Highway District (82.15 improved road miles) reported only 1.0 equivalent full-time senior staff, while South Latah Highway District (237.00 miles) reported 1.3. Ada County Highway District reported by far the largest number of equivalent full-time senior staff, 55.8.

Of the 33 cities that provided information about the size of staff, 12 indicated that they employ less than 1 equivalent full-time senior



staff. Downey reported 6.1 equivalent full-time senior staff, the highest number of the responding cities, followed by Hope at 5.3.

**Other Staff** - Clerical/office support, operators, drivers and laborers are included in the "other staff" category. A wide diversity in the number of equivalent full-time other staff is evident from the responses to the questionnaire.

Clark County reported only 4.0 equivalent full-time employees in these categories, while Bannock County reported 37.0, the most of any responding county.

Kamiah Highway District reported the equivalent of 0.3 persons while Murtaugh Highway District reported 0.5 equivalent full-time person in the other staff category. At the other extreme, Ada County Highway District reported 84 persons in this category.

The cities of Bliss (3.00 miles) and Clifton (5.96 miles) both reported no employees in these categories. Lewiston reported the largest number of equivalent full-time other staff, 13.1, followed by Nampa at 11.1 equivalent full-time employees.

#### **Diversities in Full-Time and Part-Time Staff Utilization**

Significant differences exist in the relationship between the utilization of full-time and part-time staff, as with other organizational features.

Counties with the smallest road mileage tend to rely on part-time employees more than do counties with greater road mileage. This pattern holds true for highway districts and cities also.

#### **Adequacy of Staffing Levels**

The following question was asked:

*How many more miles of road could your city (highway district/county) provide services to*

*within the capabilities of your current organization?*

The following response opportunities were provided:

- *Already Understaffed*
- *0-10% More*
- *11-25% More*
- *Over 25% More*

Seven counties felt that they were understaffed, while two felt they could handle a 0-10 percent increase in mileage.

Highway districts responded in a slightly different pattern. Of the 16 which responded, 5 felt they were understaffed, 9 felt that they could handle a 0-10 percent increase and 2 felt that a 11-25 percent increase could be handled by current staff.

Regardless of the size of street system for which a city is responsible, most of the responses were to the effect that they were already understaffed. Of the 32 cities which responded to this particular question, 6 felt that they could take on 0-10 percent more mileage while all the others felt they were understaffed.

#### **Adequacy of Equipment Levels**

Equipment adequacy was addressed by the following question:

*How many more miles of road could your city (highway district, county) serve with your present equipment fleet?*

Response opportunities were as follows:

- *Already Under Equipped*
- *0-10% More*
- *11-25% More*
- *Over 25% More*

Counties appeared to be better equipped to handle more miles than they were staffed to do so. Four of the nine respondents felt that more miles could be handled with their existing fleet of equipment.

As with the matter of staffing adequacy, highway districts displayed a greater capability to take on increased road responsibilities than did counties and cities. Only 5 of the 16 respondents felt that they were under equipped.

Questionnaire responses indicate that cities are less hampered by equipment shortages than by personnel shortages. Seven of the 32 respondents indicated that the present fleet could cope with an increase of 0-10 percent in street miles and three indicated that an increase of 11-25 percent was possible. One city indicated that it could handle more than a 25 percent increase with its fleet.

### **Allocation of Increased Funding**

Opinions were sought regarding the manner in which an increase in funding would be utilized. The following question was posed:

*If road funding for your city (highway district, county) was increased by 25%, how much would you probably use on personnel and administrative functions rather than materials, equipment, and contracted services?*

The following opportunities were provided for responses:

- 0-10%
- 11-25%
- 25-50%
- Over 50%

While two-thirds of the county respondents felt that less than 10 percent of any additional funding would be used for personnel and administrative functions, one-third would allocate a greater percentage to these areas.

With only one exception, highway districts indicated that less than 10 percent would be used for personnel and administrative functions.

Cities largely felt that no more than 10 percent of increased funding would be allocated to personnel and administrative functions. However, four of the 32 cities indicated that 11-25 percent would go for these functions, two felt that 24-50 percent would be needed for personnel and administration, and three felt that these functions should get over 50 percent of any increased funding.

### **Most Pressing Personnel Needs**

Local jurisdictions were asked to indicate their most pressing personnel needs.

County responses indicated that operators, drivers and laborers are the most urgent personnel needs.

Regarding highway districts, it is apparent that they have less pressing personnel needs than do cities and counties. The biggest needs are for operators, drivers and laborers.

Cities reported that their greatest needs are for operators, drivers and laborers.

### **Intergovernmental Relationships**

Various questions were posed concerning the extent to which the local jurisdictions provide services, equipment and/or supplies to other road/bridge organizations.

**Surface and Drainage Maintenance** - One of the questions was whether the responding agency maintains surfaces and/or drainage structures on roads belonging to another agency. Eight of the 57 who responded (14 percent) indicated that they regularly provide such services while 23 (40 percent) reported that they occasionally provide such services.<sup>9</sup>

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<sup>9</sup> "Regularly" means a continuing arrangement usually involving a standing contract between the agencies. "Occasionally" means only under special circumstances as the need arises.

**Snow Removal and Ice Control** - Another question was about the extent to which the responding agency performs snow removal and/or ice control on the roads of another agency. Eleven of the 57 local governments that responded (19 percent) indicate that they regularly provide such service and 23 indicated that they did so occasionally (40 percent).

**Traffic Services** - A similar question was posed about the extent to which the responding agency maintains signals, signs and/or markings on the roads belonging to another agency. Responses indicate that there is less intergovernmental cooperating in this area than in surface and drainage maintenance and in snow removal and ice control. Only 3 of the 57 respondents (5 percent) indicated that this was a regular arrangement and 14 (25 percent) indicated it was an occasional arrangement.

**Engineering Support** - Another question was designed to determine the extent to which the responding agency provided engineering support for some of the road activities for which another agency is responsible. Even less interagency assistance is manifest for engineering support functions than for maintenance functions. None of the respondents indicated that they regularly provided engineering support while 11 (19 percent) indicated they did so occasionally.

**Construction Services** - The extent to which responding agencies provide construction services and/or assistance for roads and/or bridges belonging to another agency was an item included in the questionnaire. None of the respondents indicated that this was done regularly. Nevertheless, 21 respondents (37 percent) reported that construction services occasionally were provided to other jurisdictions.

**Equipment** - Responses to the question about the leasing, renting and/or loaning of equipment to another road/bridge agency indicate that this is not a predominant practice on a regular basis (only two respondents indicated that this arrangement was a regular undertaking). However, 37 respondents (65 percent) indicated that they occasionally assist other jurisdictions in this manner.

**Equipment Maintenance** - A question was posed regarding the extent to which agencies maintain equipment belonging to another agency. Only one respondent does so on a regular basis and only seven do so occasionally. Apparently, local jurisdictions tend to maintain their own equipment.

**Joint Purchases** - A question concerning the extent to which agencies make joint purchases of gas, oil and other supplies resulted in three local jurisdictions reporting a regular arrangement. Fifteen (26 percent) reported that they do so occasionally.

**Attitudes Regarding Intergovernmental Relationships** - Forty-five respondents (79 percent) reported that their responsibilities were such that they could not assist another road/bridge organization because they were fully committed.

Twenty local jurisdictions (34 percent of those that responded) reported that they were able to meet their own responsibilities and did not need help from another road/bridge organization.

**Attitudes Regarding Consolidation of Responsibilities**

Indications were sought regarding the effects local governments felt would accompany the consolidation of their road and bridge responsibilities with those of another road/bridge organization.

When asked if they thought personnel would be used more efficiently, 23 out of the 58 local jurisdictions which responded (40 percent) states that this would be achieved with consolidation. However, affirmative responses varied by jurisdictional level. Seventeen of 33 city respondents (52 percent) felt efficiency would be achieved. However, only 3 of 9 counties felt the same way. Likewise, only 3 of 16 highway districts (19 percent) felt personnel efficiencies would accompany consolidation.

The question as to whether equipment would be utilized more efficiently if responsibilities were consolidated produced similar responses. Nineteen of 32 cities felt that efficiencies would be

achieved. Five of 9 counties also felt the same way but only 4 of 15 highway districts anticipate improved equipment utilization.

Agencies also were asked whether cost savings and/or better road/bridge services would result from consolidated responsibilities. A majority of cities felt that this would occur (21 out of 32 respondents, 66 percent). However, only 4 of the 9 counties felt this would be the case and only 2 of 15 highway districts.

When asked what effects consolidation would have on awareness of and responsiveness to the needs of the public, responses by nine counties indicated that four felt there would be improvements, three felt conditions would be relatively unchanged, and two felt there would be a decrease. Only one of 16 highway districts felt there would be an improvement. Twelve out of 33 cities indicated that improvements would be achieved, 16 felt conditions would be relatively unchanged and five felt there would be a decrease.

Attitudes were sought regarding whether consolidation of responsibilities would better match available funding with road and bridge needs. Four of nine counties felt this would occur, but only 1 out of 15 highway districts concurred. On the other hand, 21 out of 30 city responses were positive.

The final question was about the equity of funding arrangements if road responsibilities were consolidated. Three counties felt greater equity would result, two felt there would be no significant

change and four felt that less equity would accompany consolidation of responsibilities. Ten of 13 highway districts felt that there would be no significant change, while three felt less equity would result from consolidation. On the other hand, 10 cities felt equity would be improved, 10 felt there would be no significant change and another 10 felt that there would be less equity under such an arrangement.

### **Conclusions Regarding Organizational Features**

The majority of respondents indicated that they were understaffed and could not undertake the responsibility of more road miles. Equipment fleets appear to be less of a constraint to increased highway responsibilities than were staff limitations. Respondents indicated that their most pressing personnel needs generally were equipment operators, drivers and laborers. Responses suggest that a modest amount of intergovernmental cooperation exists between local jurisdictions with some jurisdictions providing services on behalf of other jurisdictions.

Attitudes of survey respondents regarding consolidation of highway responsibilities were mixed. There was no clear indication that highway personnel and/or equipment would be better utilized or that cost savings and improved program delivery would accompany consolidation of responsibilities. Cities that responded were the most favorable to consolidation while the responding highway districts were least favorable.



## **Where Does Idaho Go From Here?**

Idaho's highway problems are not unique. Other states also are faced with deficient highway systems because highway revenues have not kept up with inflation and growing highway system demands. Some states have taken aggressive steps in recent years to address these problems. During 1989, 18 state legislatures and the District of Columbia voted to increase their motor fuel tax rates. Increases in four states were 5 cents per gallon or more.

Idaho now must decide if it, too, will face up to the need for bold and imaginative initiatives which will begin to correct the problems that have been allowed to accumulate. The lack of adequate actions in the past has led Idaho to its current situation. Only forceful actions now can prevent further increases in the backlog of highway needs. In view of the substantial economic benefits which derive from Idaho's state and local highways, and the potential disastrous effects if corrective actions are not taken, the Local Highway Needs Assessment Council submits this report with the strong conviction that now is the time for Idaho to undertake bold measures.

**For Further Information**

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